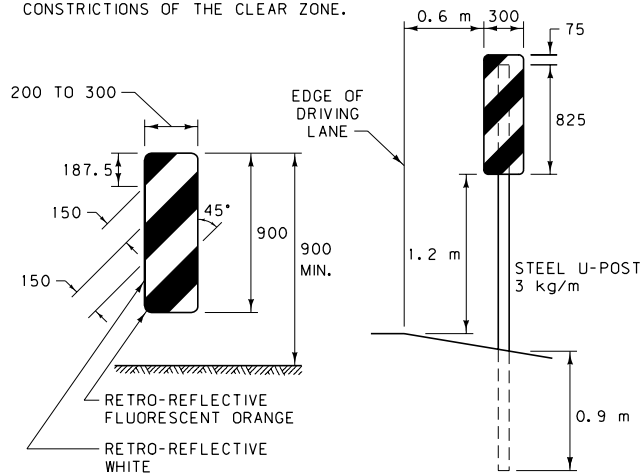


NOTES:

- ① RAIL STRIPES ARE 150 mm IN WIDTH FOR BARRICADES 0.9 m OR GREATER IN LENGTH. FOR BARRICADES LESS THAN 0.9 m IN LENGTH, 100 mm STRIPES MAY BE USED.
- ② THE PREDOMINANT COLOR FOR OTHER BARRICADE COMPONENTS IS WHITE, BUT UNPAINTED GALVANIZED METAL OR ALUMINUM COMPONENTS MAY BE USED.
- ③ WHERE B(III) BARRICADES ARE TO FACE TRAFFIC FROM TWO DIRECTIONS, STRIPING ON BOTH THE FRONT AND REAR SIDES IS REQUIRED.
- ④ USE MATERIALS FOR BARRICADE FRAMEWORK AND ASSEMBLY, INCLUDING ANY SIGNS AND MEANS OF ATTACHMENT, THAT MEET THE REQUIREMENTS FOR NCHRP 350 FOR WORK ZONE DEVICES.
- ⑤ USE SANDBAGS OF SUFFICIENT WEIGHT TO HOLD THE BARRICADES IN PLACE. WATERPROOF SANDBAGS DURING PERIODS OF FREEZING WEATHER.

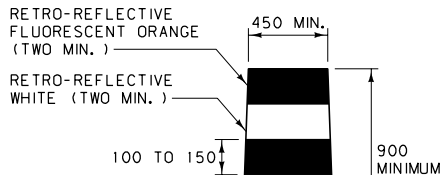
PORTABLE BARRICADES

- ④ USE POST-MOUNTED VERTICAL PANELS TO DELINEATE ROADSIDE CONSTRICTIONS OF THE CLEAR ZONE.



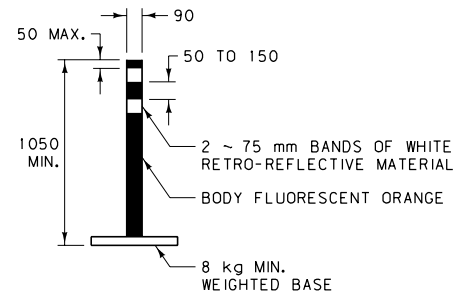
VERTICAL PANEL

(VP-1R SHOWN. REVERSE FOR VP-1L.)

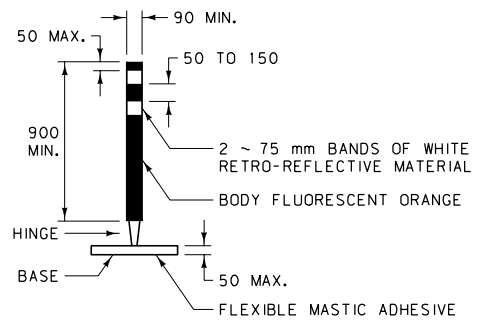


ADD BALLAST ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS TO HOLD THE DRUM IN PLACE.

DRUMS HAVE CLOSED TOPS.



**FLEXIBLE GUIDE POST
(TUBULAR MARKER)**




**HINGED FLEXIBLE GUIDE POST
(TUBULAR MARKER)**

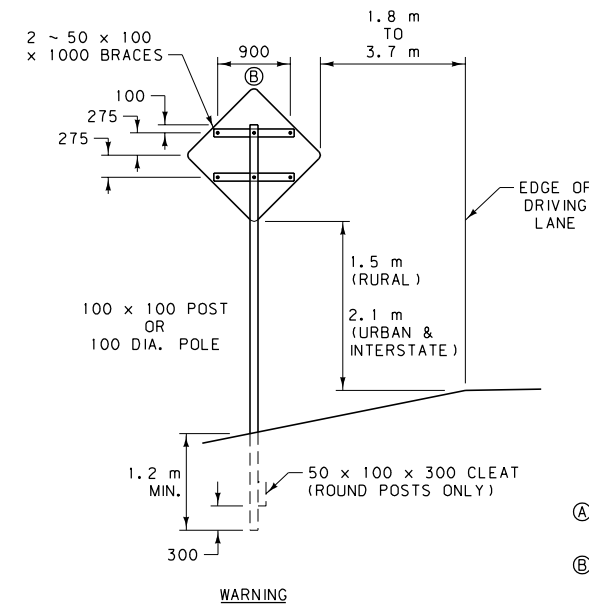
(SELF RIGHTING AFTER IMPACT)

NOTES:

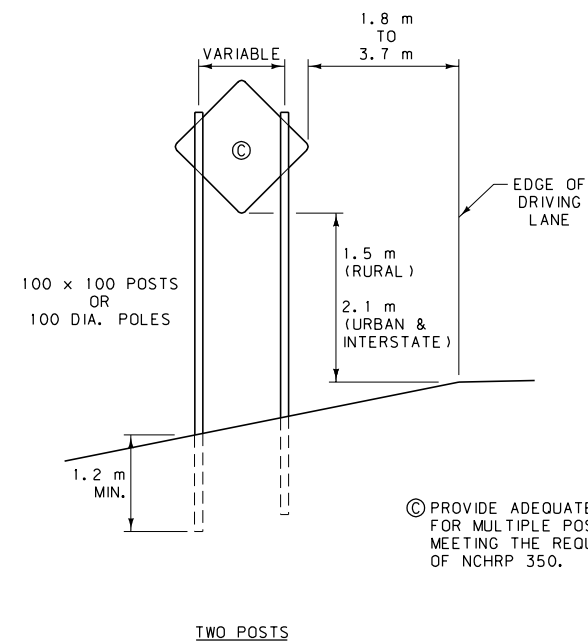
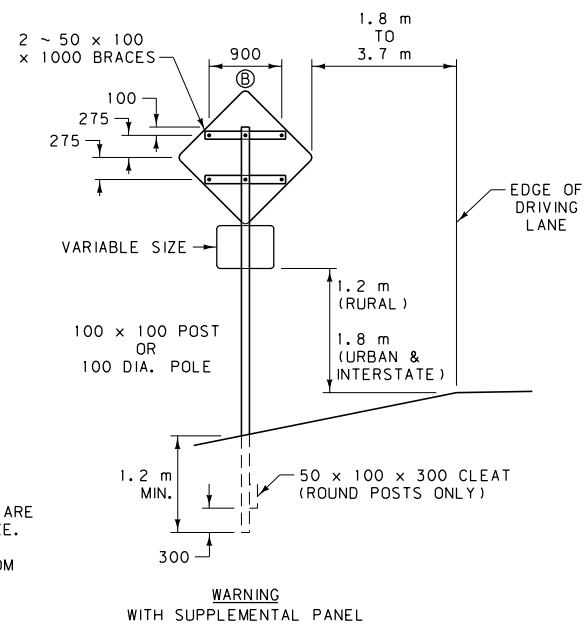
- ⑥ BARRICADES OR VERTICAL PANELS DESIGNATED "R" ARE PLACED TO THE RIGHT SIDE OF APPROACHING TRAFFIC. THOSE DESIGNATED "L" ARE PLACED TO THE LEFT SIDE.
- ⑦ SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PART 6 FOR ADDITIONAL INFORMATION.
- ⑧ USE ASTM TYPE IX RETRO-REFLECTIVE SHEETING ON ALL BARRICADES AND VERTICAL PANELS. USE ASTM TYPE III RETRO-REFLECTIVE SHEETING ON ALL PLASTIC DRUMS AND FLEXIBLE GUIDE POSTS.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

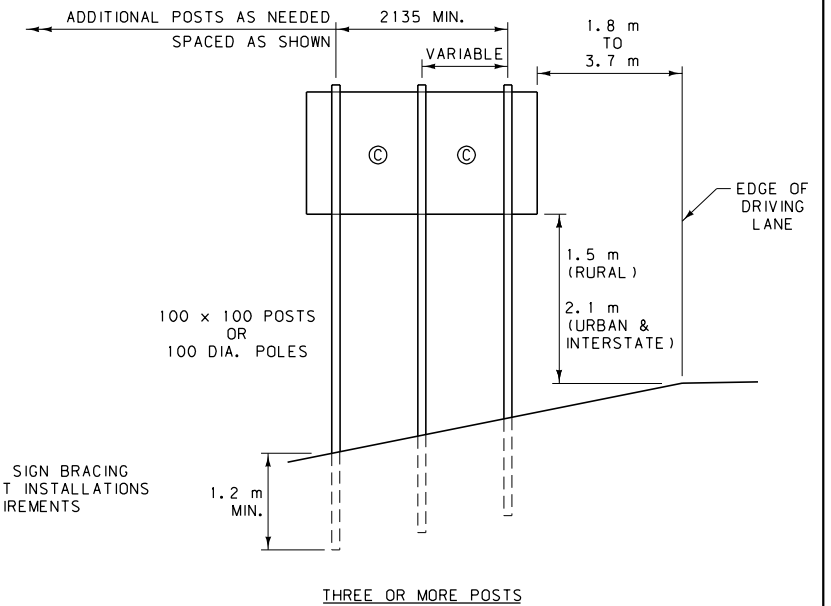
DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-00
BARRICADES AND CHANNELIZING DEVICES	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION serving you with pride	



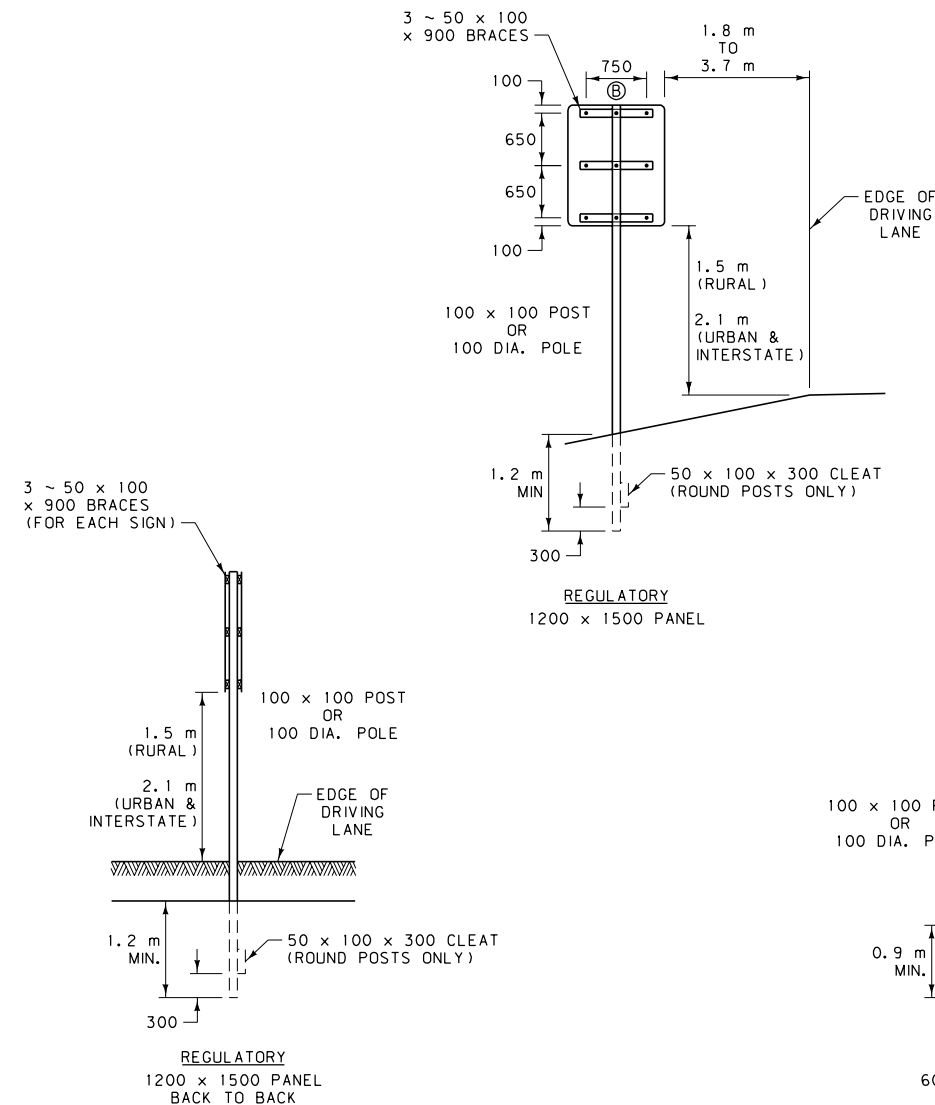
- Ⓐ ALL WARNING SIGNS ARE 1200 x 1200 IN SIZE.
Ⓑ DIMENSIONS ARE FROM ♂ BOLT TO ♂ BOLT.



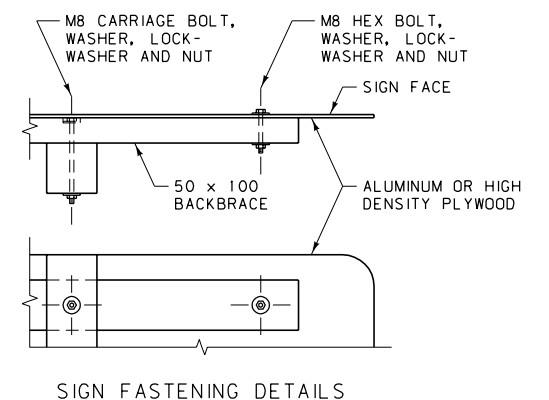
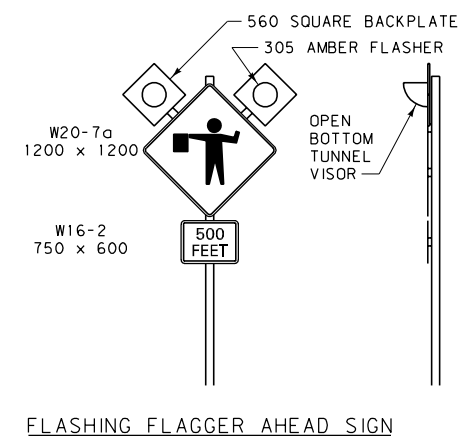
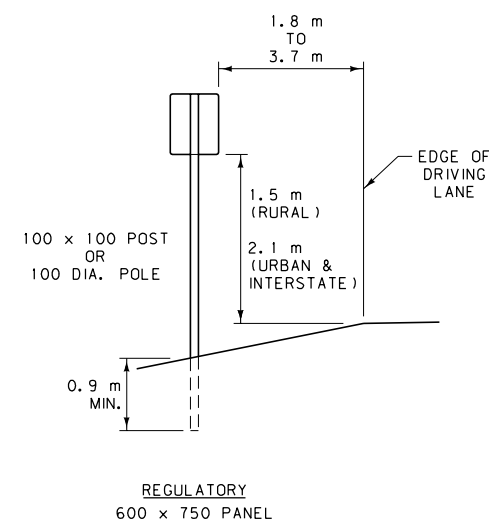
- Ⓒ PROVIDE ADEQUATE SIGN BRACING FOR MULTIPLE POST INSTALLATIONS MEETING THE REQUIREMENTS OF NCHRP 350.



TYPICAL MULTIPLE POST INSTALLATIONS
(FOR CONSTRUCTION SIGNING ONLY)




TYPICAL SIGN MOUNTINGS
(FOR CONSTRUCTION SIGNING ONLY)

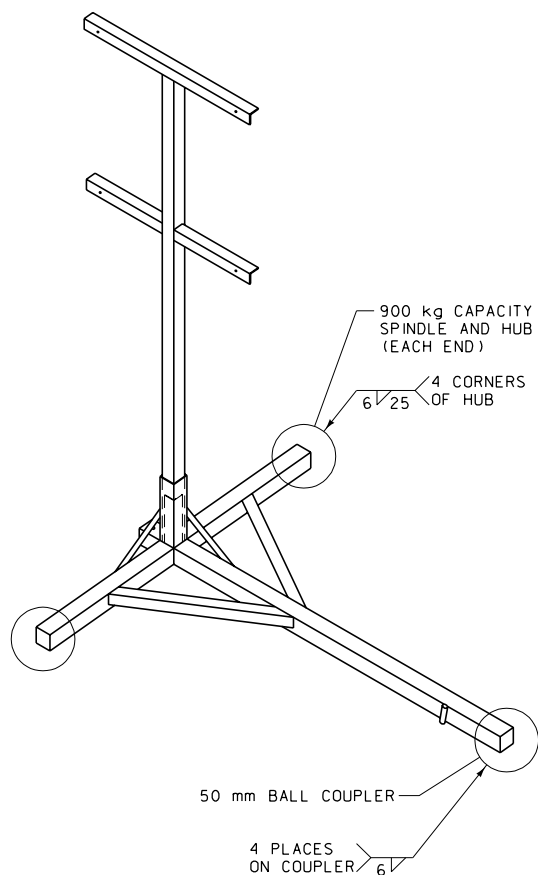


NOTES:

- FURNISH AND INSTALL POSTS OR POLES MEETING NCHRP 350 REQUIREMENTS.
- FURNISH POST OR POLE LENGTHS TO ACCOMMODATE THE FOUNDATION DEPTH, THE MOUNTING HEIGHT AND THE MOUNTINGS.
- BACKFILL FOUNDATION HOLES IN 205 mm LIFTS, THOROUGHLY TAMPING EACH LIFT.
- IN HIGH WIND AREAS INSTALL LARGER POSTS OR POLES COMPLYING WITH THE FOUNDATION AND BREAKAWAY REQUIREMENTS OF DTL. DWG. 619-20. THE MINIMUM POST SPACING FOR MULTIPLE POSTS LARGER THAN 100 mm IS 2135 mm.
- VERTICAL ALIGNMENT OF SIGNS IS TO BE WITHIN 5° OF PLUMB (85 mm IN 1000 mm).
- USE THE URBAN MOUNTING HEIGHTS IN BUSINESS, COMMERCIAL, AND RESIDENTIAL DISTRICTS WHERE PARKING AND/OR PEDESTRIAN MOVEMENT IS LIKELY TO OCCUR, OR WHERE THERE ARE OTHER OBSTRUCTIONS TO VIEW. URBAN MOUNTING HEIGHTS MAY ALSO BE USED IN RURAL AREAS FOR INCREASED VISIBILITY.

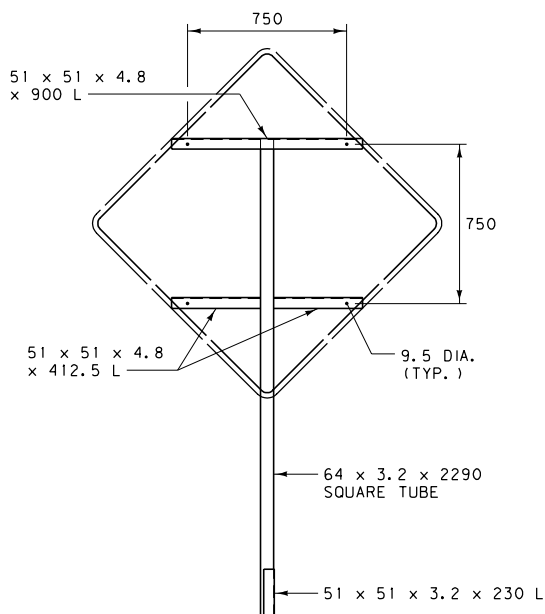
ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	618-01
SECTION 618	
CONSTRUCTION SIGN DETAILS	
EFFECTIVE: FEBRUARY 2005	
 serving you with pride	MONTANA DEPARTMENT OF TRANSPORTATION



NOTES:

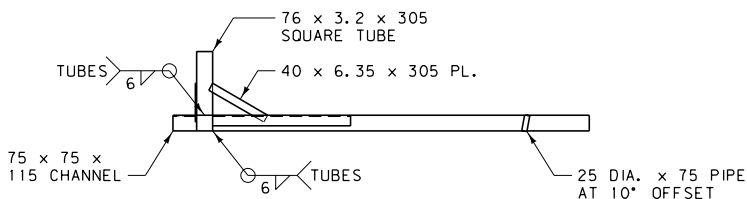
- ① THE MAXIMUM WEIGHT OF THE ASSEMBLY IS 115 kg.
- ② USE A 355 mm WHEEL AND TIRE.
- ③ AUTOMOTIVE AND EQUIPMENT AXLE ASSEMBLIES MAY NOT BE USED FOR TRAILER-MOUNTED SIGN SUPPORTS.
- ④ OTHER NCHRP 350 CRASH TESTED ASSEMBLIES ARE ACCEPTABLE.



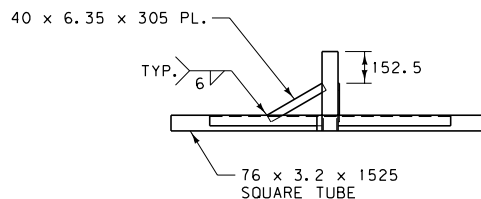
FRONT

RIGHT

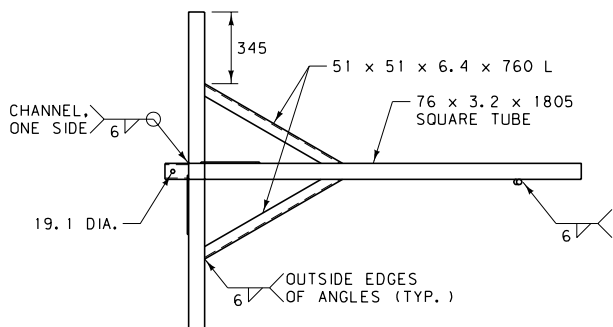
SIGN SUPPORT



FRONT




RIGHT

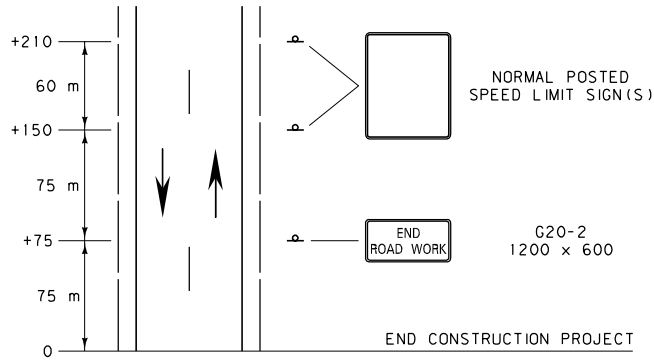


TOP

TRAILER

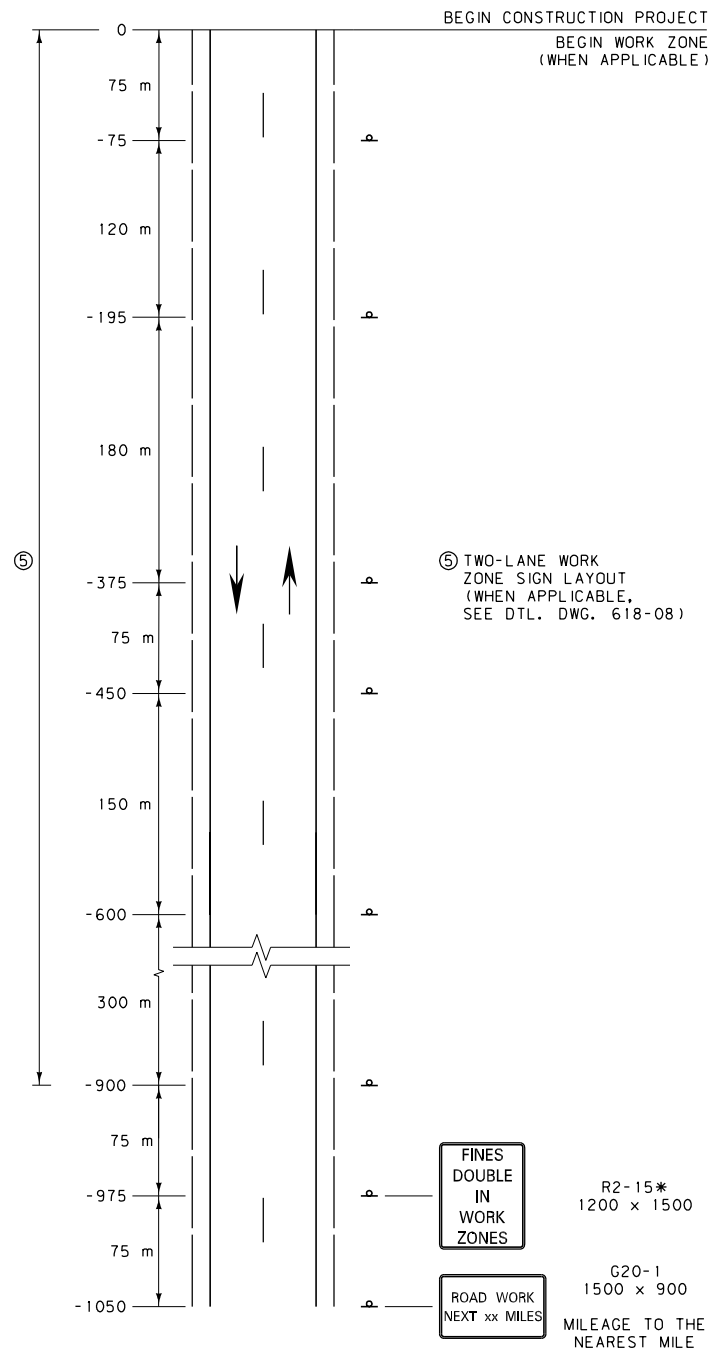
ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618.715	DWG. NO. 618-02
PORTABLE SIGN SUPPORT ASSEMBLY	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION	




NOTES:

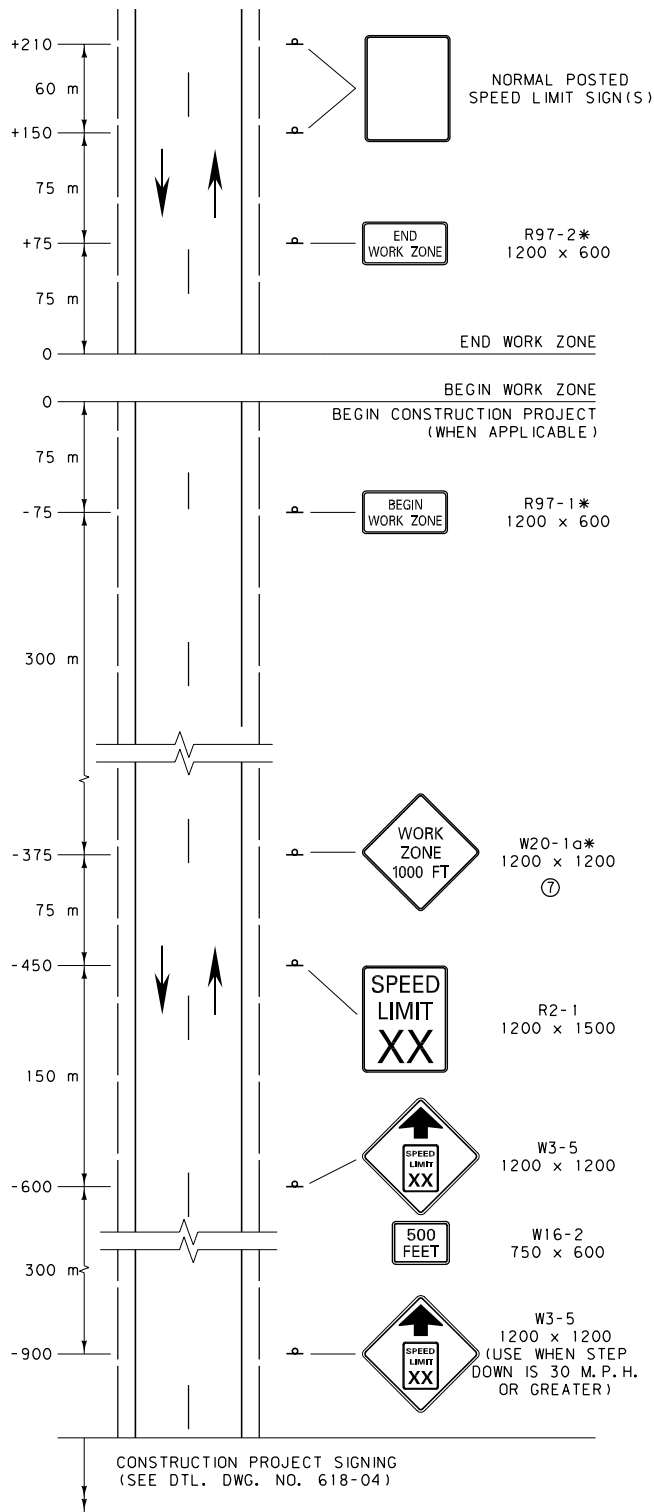
- ① THIS SIGN LAYOUT IS INTENDED TO BE A PERMANENT INSTALLATION FOR THE DURATION OF THE CONSTRUCTION PROJECT, AS APPROVED BY THE ENGINEER. COVER OR REMOVE ANY SIGNS WHEN NOT IN USE, INCLUDING SPEED LIMIT SIGNS NOT WARRANTED. REMOVE ANY SIGN SUPPORTS IF THEY WILL NOT BE NEEDED WITHIN 90 DAYS.
 - ② XX = SPEED DETERMINED BY THE ENGINEER.
 - ③ INCLUDE REGULATORY SIGNING ONLY IF THE CONSTRUCTION PROJECT CONTAINS A WORK ZONE OR HAS ROADWAY CONDITIONS THAT WARRANT SPEED RESTRICTIONS. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.
 - ④ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.
 - ⑤ IN ADDITION TO THE SIGNS SHOWN, INCLUDE THE APPROPRIATE TWO-LANE WORK ZONE SIGNS (DTL. DWG. NO. 618-08) WHEN A WORK ZONE IS LOCATED AT THE BEGINNING OR END OF THE CONSTRUCTION PROJECT.
 - ⑥ SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION.
- * DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.



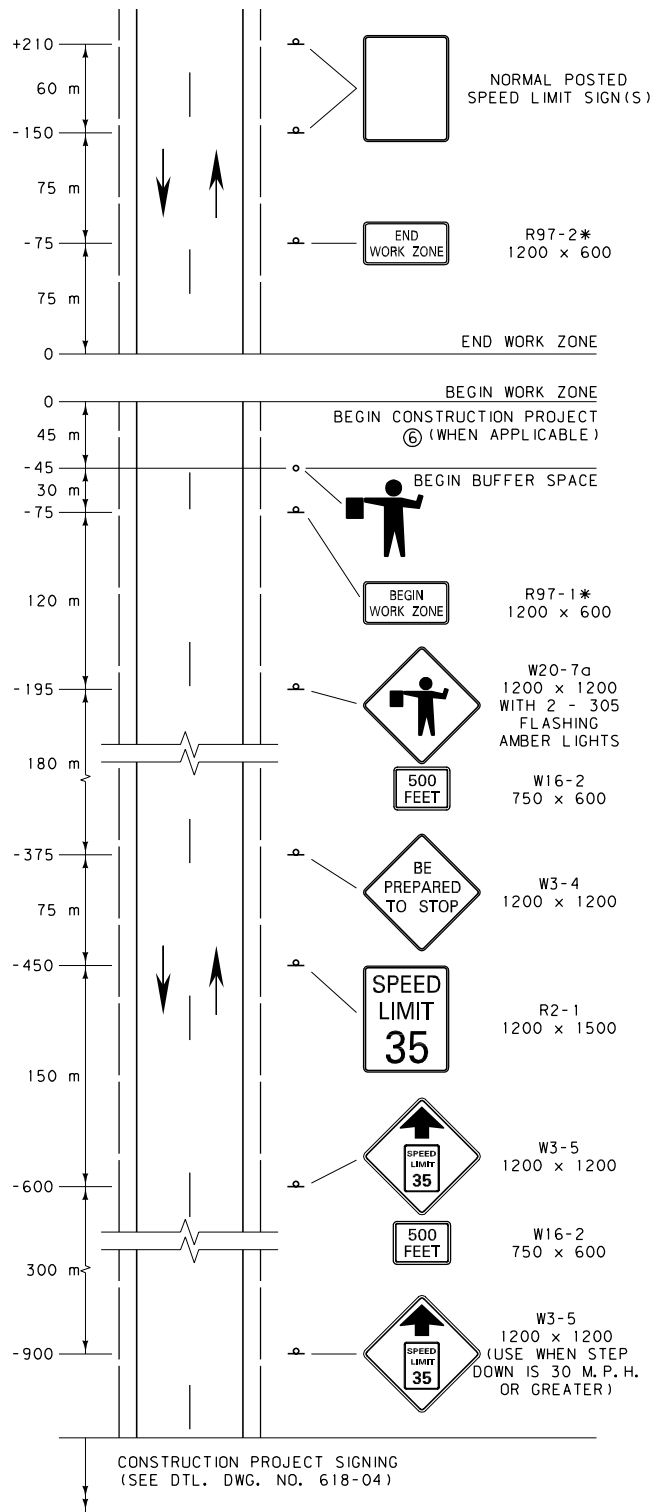
ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-04
TWO-LANE CONSTRUCTION PROJECT	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION	





WORK ZONE WITH NO FLAGGER



WORK ZONE WITH FLAGGER


NOTES:

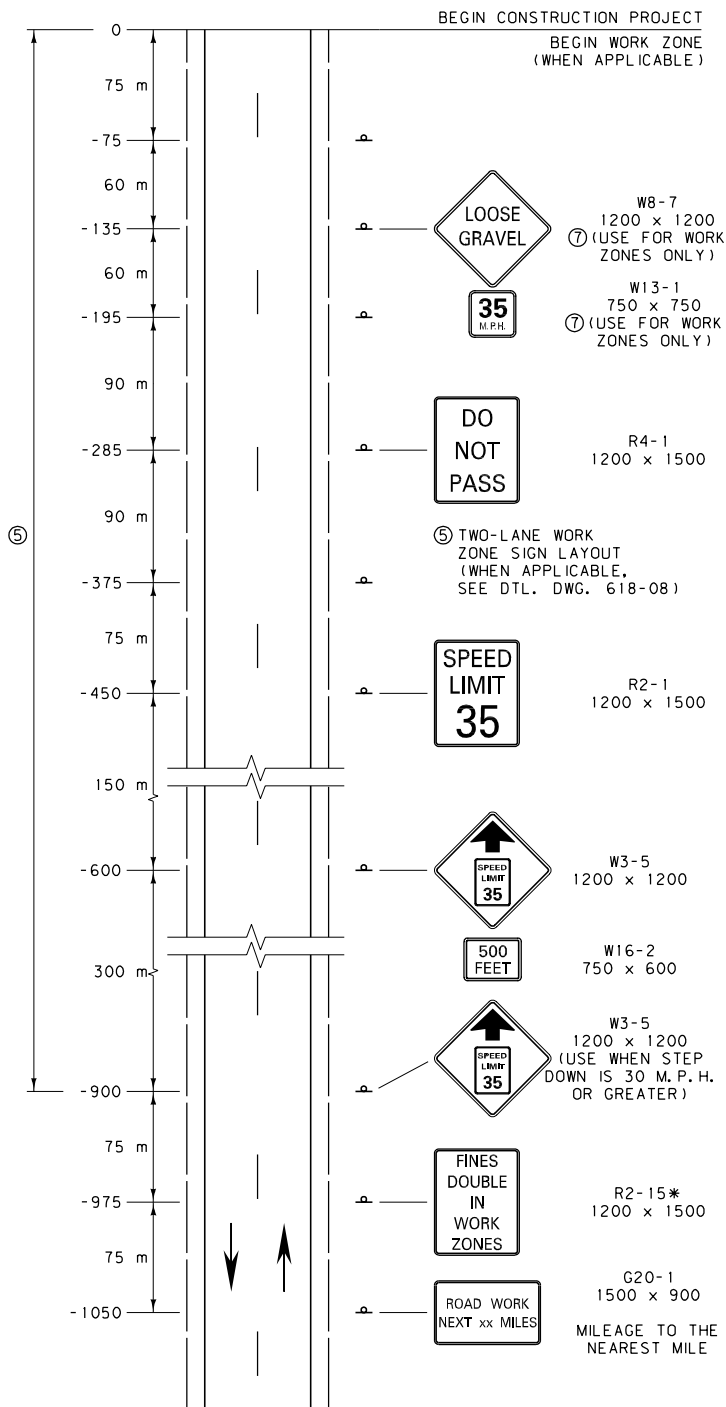
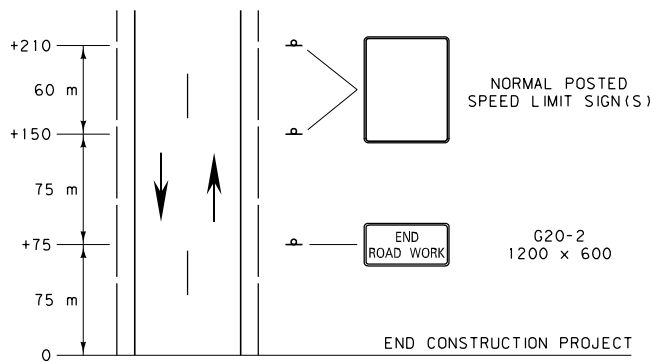
- ① THESE SIGN LAYOUTS WORK IN CONJUNCTION WITH THE PERMANENT LAYOUT ILLUSTRATED ON DTL. DWG. NO. 618-04 FOR WORK ZONES LOCATED AT THE BEGIN AND END OF THE CONSTRUCTION PROJECT.
- ② XX = SPEED DETERMINED BY THE ENGINEER.
- ③ INCLUDE REGULATORY SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED WITHIN THE WORK ZONE. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.
- ④ SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION. COMBINE SUCCESSIVE WORK ZONES WHEN LESS THAN 1.6 KILOMETERS APART.

- ⑤ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.
- ⑥ THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.
- ⑦ USE MORE SPECIFIC SIGNS, WHERE APPLICABLE, SUCH AS W8-3 "PAVEMENT ENDS."
- ⑧ PROVIDE A SECOND FLAGGER WHEN REQUIRED BY STANDARD SPECIFICATIONS, SECTION 618.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-08
TWO-LANE CONSTRUCTION PROJECT WORK ZONES	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION	




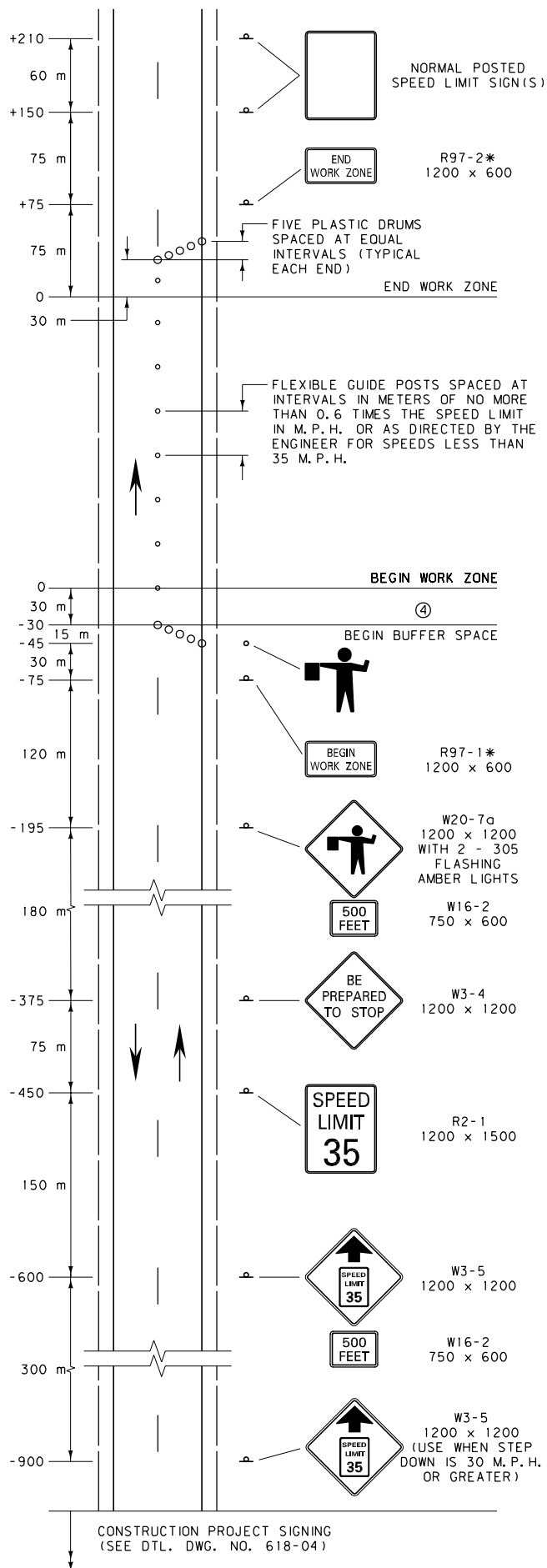
NOTES:

- ① THIS SIGN LAYOUT WORKS IN CONJUNCTION WITH THE PERMANENT LAYOUT ILLUSTRATED ON DTL. DWG. NO. 618-04. COVER OR REMOVE SIGNS WHEN NOT IN USE, INCLUDING SPEED LIMIT SIGNS NOT WARRANTED.
- ② INCLUDE REGULATORY SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED WITHIN THE CONSTRUCTION PROJECT. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.
- ③ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.
- ④ FOR SEAL COAT WORK ZONE ACTIVITIES, USE THE FLAGGER APPLICATION OF THE WORK ZONE LAYOUT FROM DTL. DWG. NO. 618-08.
- ⑤ IN ADDITION TO THE SIGNS SHOWN, INCLUDE THE APPROPRIATE TWO-LANE WORK ZONE SIGNS WHEN A WORK ZONE IS LOCATED AT THE BEGINNING OR END OF THE CONSTRUCTION PROJECT.
- ⑥ SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION.
- ⑦ PLACE THE W8-7 AND W13-1 SIGNS AT THE BEGINNING OF EACH WORK ZONE AND AT 3.2 km INTERVALS WITHIN THE WORK ZONES FOR EACH DIRECTION OF TRAVEL.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-10
TWO-LANE CONSTRUCTION PROJECT SEAL COAT	
EFFECTIVE: FEBRUARY 2005	
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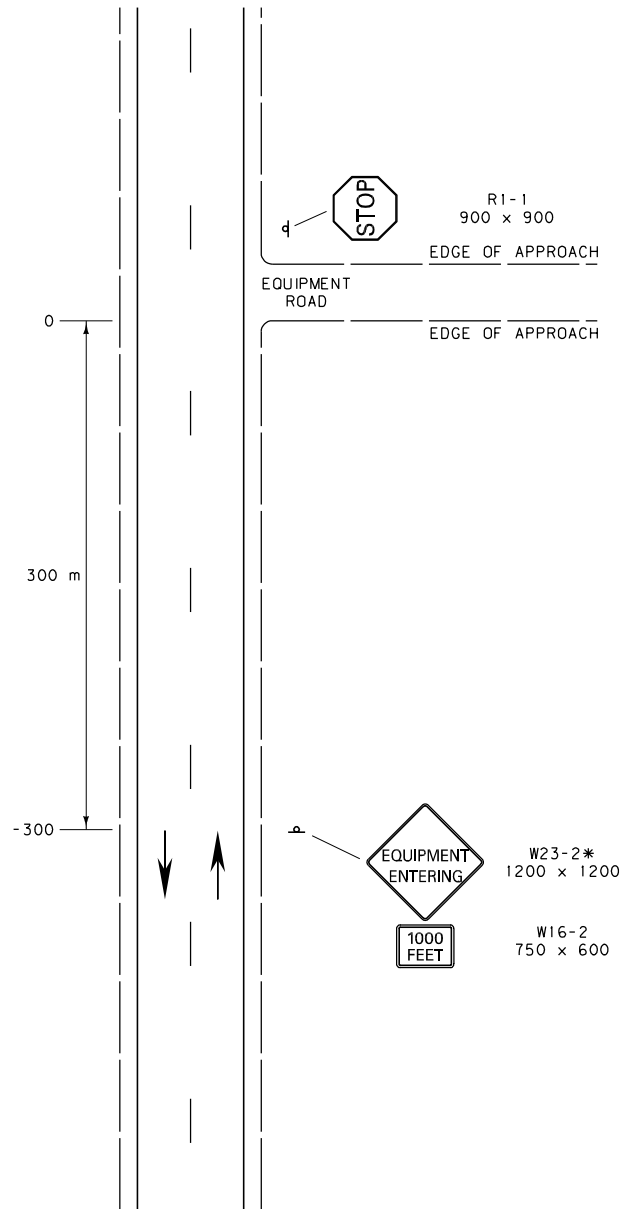
NOTES:

- ① MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.
- ② SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION.
- ③ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.
- ④ THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.
- ⑤ PROVIDE A SECOND FLAGGER WHEN REQUIRED BY STANDARD SPECIFICATIONS, SECTION 618.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.


DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-12
TWO-LANE CONSTRUCTION PROJECT LANE CLOSURE	
EFFECTIVE: FEBRUARY 2005	
 serving you with pride	MONTANA DEPARTMENT OF TRANSPORTATION

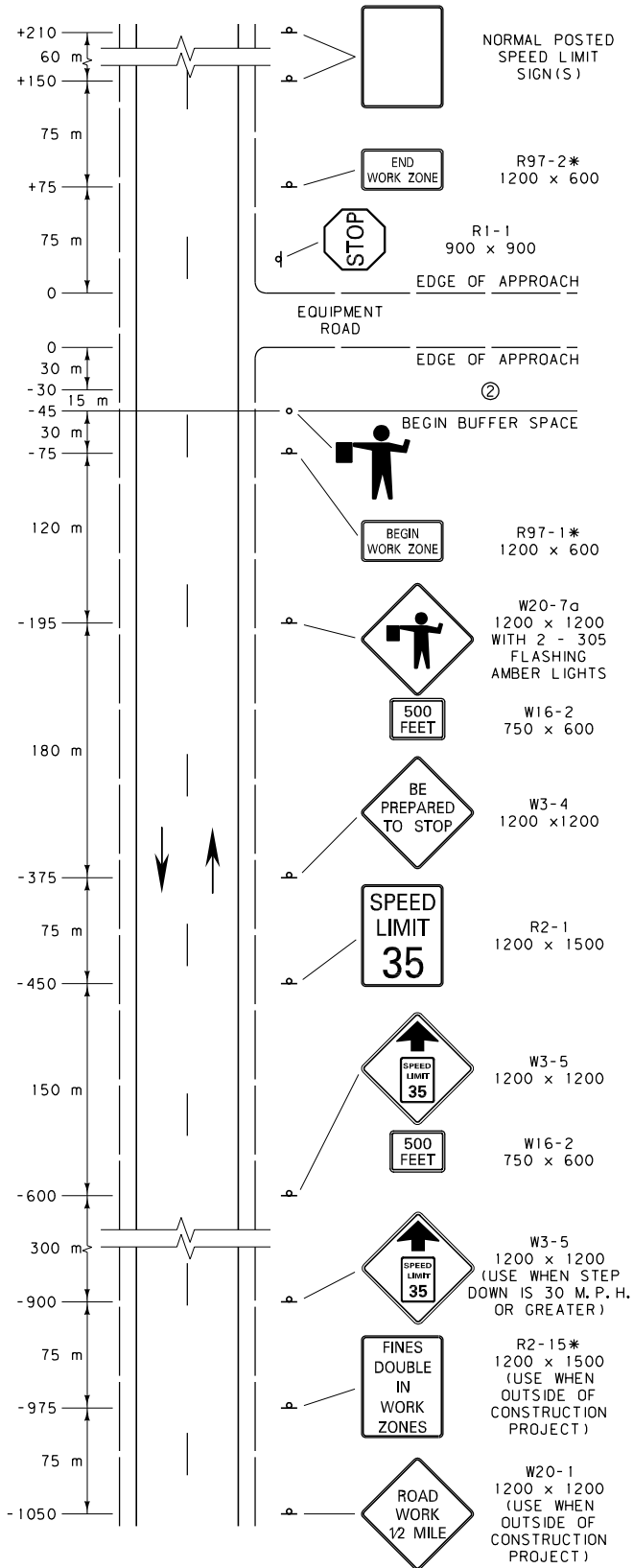


NOTES:

- ① USE THIS SIGN LAYOUT WHEN APPROPRIATE. OTHERWISE REFER TO DTL. DWG. NO. 618-16 WHEN A FLAGGER IS NEEDED.
 - ② SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION, AS NEEDED.
- * DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	618-14
SECTION 618	
TWO-LANE EQUIPMENT ENTRANCES	
EFFECTIVE: FEBRUARY 2005	
 serving you with pride	MONTANA DEPARTMENT OF TRANSPORTATION




NOTES:


- ① SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION, AS NEEDED.
- ② THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.
- ③ XX = SPEED DETERMINED BY THE ENGINEER.
- ④ THE WORK ZONE REFERS TO THE AREA WHERE WORK IS ACTUALLY TAKING PLACE. WHEN THIS OCCURS OUTSIDE OF A CONSTRUCTION PROJECT INCLUDE THE W20-1 AND R2-15* SIGNS.

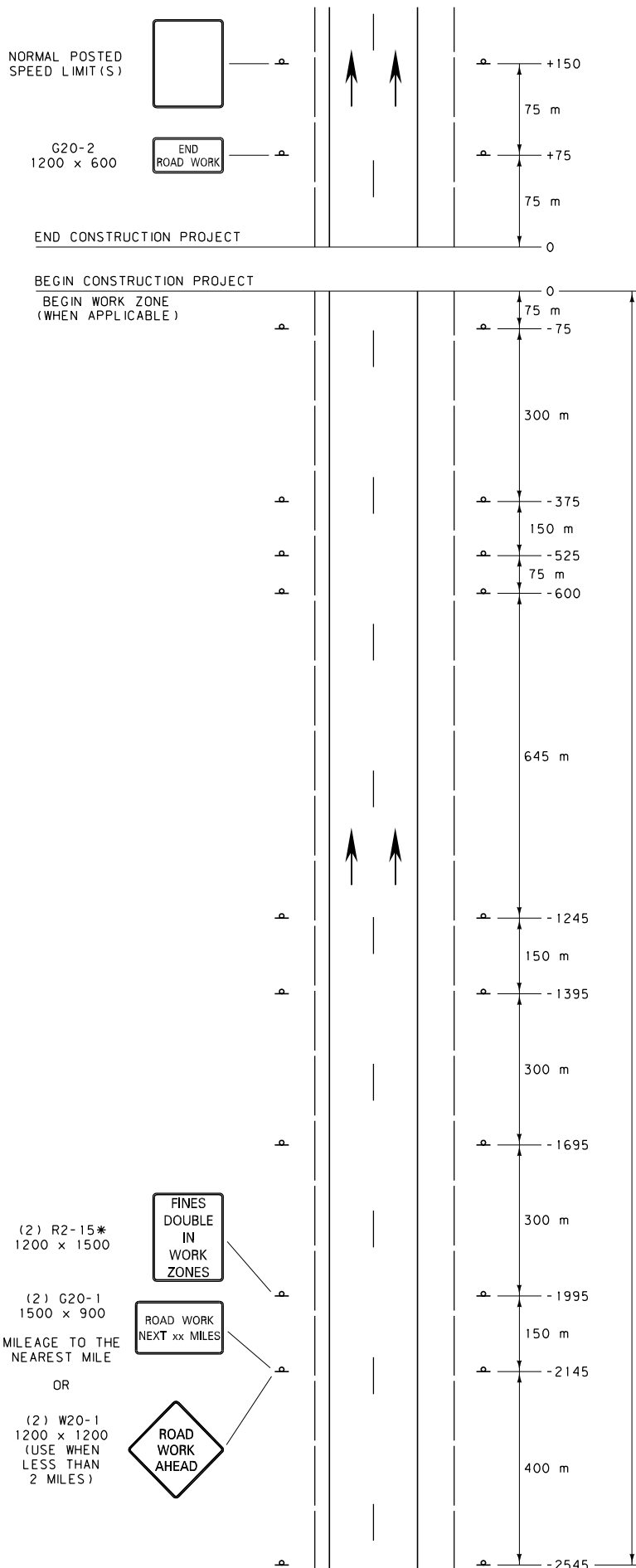
*DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-16
TWO-LANE EQUIPMENT ENTRANCES	
EFFECTIVE: FEBRUARY 2005	
 serving you with pride	MONTANA DEPARTMENT OF TRANSPORTATION

EQUIPMENT ENTRANCE WITH FLAGGER

DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	618-18
SECTION 618	
TWO-LANE CONSTRUCTION PROJECT DETOUR	
EFFECTIVE: FEBRUARY 2005	
 serving you with pride	MONTANA DEPARTMENT OF TRANSPORTATION




NOTES:

- ① THIS SIGN LAYOUT IS INTENDED TO BE A PERMANENT INSTALLATION FOR THE DURATION OF THE CONSTRUCTION PROJECT, AS APPROVED BY THE ENGINEER. COVER OR REMOVE SIGNS WHEN NOT IN USE, INCLUDING SPEED LIMIT SIGNS NOT WARRANTED. REMOVE ANY SIGN SUPPORTS IF THEY WILL NOT BE NEEDED WITHIN 90 DAYS.
 - ② XX = SPEED DETERMINED BY THE ENGINEER.
 - ③ INCLUDE REGULATORY SIGNING ONLY IF THE CONSTRUCTION PROJECT CONTAINS A WORK ZONE OR HAS ROADWAY CONDITIONS THAT WARRANT SPEED RESTRICTIONS. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.
 - ④ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.
 - ⑤ SET UP THIS SIGN LAYOUT IN EACH TRAFFIC DIRECTION.
 - ⑥ IN ADDITION TO THE SIGNS SHOWN, INCLUDE THE APPROPRIATE FOUR-LANE WORK ZONE SIGNS (DTL. DWG. NO. 618-24) WHEN A WORK ZONE FALLS AT THE BEGIN OR END OF THE CONSTRUCTION PROJECT.
 - ⑦ DIVIDED FOUR-LANE IS SHOWN. FOR UN-DIVIDED FOUR-LANE, PLACE SIGNS ON RIGHT SIDE ONLY.
- * DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

FOUR-LANE WORK ZONE SIGN LAYOUT (WHEN APPLICABLE, SEE DTL. DWG. 618-24) ⑥

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-20
DIVIDED FOUR-LANE CONSTRUCTION PROJECT	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION serving you with pride	

MATCH LINE FROM
DTL. DWG. NO. 618-30

NOTES:

- ① SPACE CHANNELIZING DEVICES ON TANGENTS AT INTERVALS IN METERS OF NO MORE THAN 0.6 TIMES THE SPEED LIMIT IN M.P.H. AND ON ALL TAPER SECTIONS AT INTERVALS IN METERS OF NO MORE THAN 0.3 TIMES THE SPEED LIMIT IN M.P.H. FOR SPEED LIMITS LESS THAN 35 M.P.H. SPACE CHANNELIZING DEVICES AS DIRECTED BY THE ENGINEER.
- ② OBLITERATE ALL PAVEMENT MARKINGS THAT CONFLICT AT ANY TIME DURING OR AFTER MEDIAN CROSSING USE.
- ③ INDICATED SPACINGS ARE INTENDED TO BE A MAXIMUM AND MAY BE REDUCED IF CONDITIONS WARRANT.
- ④ USE MATERIALS FOR BARRICADE FRAMEWORK AND ASSEMBLY, INCLUDING ANY SIGNS AND MEANS OF ATTACHMENT, THAT MEET THE REQUIREMENTS FOR NCHRP 350 FOR WORK ZONE DEVICES.

FLEXIBLE GLUE
DOWN GUIDE
POSTS SPACED
AT HALF NORMAL
SPACING

R3-2
900 x 900



75 m

W4-1
1200 x 1200



10:1 TAPER
(DESIRABLE)
8:1 TAPER
(MINIMUM)

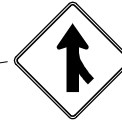
R3-2
900 x 900



75 m

150 m
MERGING
LANE

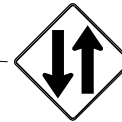
150 m
ACCELERATION
LANE



W4-1
1200 x 1200



R5-1
900 x 900



W6-3
1200 x 1200



R5-1a
900 x 600
(ANGLE 20° TOWARDS
CROSS-OVER LANE)



R11-2
1200 x 750

B(III)-R
3.0 m ④



W6-3
1200 x 1200

W16-9P
750 x 450



W20-1
1200 x 1200

LEGEND

- S — OBLITERATE CONFLICTING PAVEMENT MARKINGS
- PLASTIC DRUMS (SEE NOTES FOR SPACING)
- - - - - WHITE PLASTIC PAVEMENT MARKING TABS AT 1.5 m SPACING
- ===== DOUBLE YELLOW PAINT OR DOUBLE PLASTIC PAVEMENT MARKING TABS AT 1.5 m SPACING
- FLEXIBLE GLUE-DOWN GUIDE POSTS ON TWO-LANE (SEE NOTES FOR SPACING EXCEPT AS SHOWN)


ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING

REFERENCE	DWG. NO.
STANDARD SPEC.	618-21
SECTION 618	

TEMPORARY
ENTRANCE RAMP
MEDIAN CROSSING

EFFECTIVE: FEBRUARY 2005

 MONTANA DEPARTMENT
OF TRANSPORTATION

LEGEND

- S— OBLITERATE CONFLICTING PAVEMENT MARKINGS
- PLASTIC DRUMS (SEE NOTES FOR SPACING)
- - - - - PLASTIC PAVEMENT MARKING TABS AT 1.5 m SPACING
- ===== DOUBLE YELLOW PAINT OR DOUBLE PLASTIC PAVEMENT MARKING TABS AT 1.5 m SPACING
- FLEXIBLE GLUE-DOWN GUIDE POSTS ON TWO-LANE (SEE NOTES FOR SPACING EXCEPT AS SHOWN)

E5-1
1500 x 1200



R3-2
900 x 900



FLEXIBLE GLUE
DOWN GUIDE
POSTS SPACED
AT HALF NORMAL
SPACING

W6-3
1200 x 1200



E7-1
1800 x 900



R11-2
1200 x 750
B(III)-R
3.0 m

10: 1 TAPER
(DESIRABLE)

8: 1 TAPER
(MINIMUM)

NOTES:

- ① SPACE CHANNELIZING DEVICES ON TANGENTS AT INTERVALS IN METERS OF NO MORE THAN 0.6 TIMES THE SPEED LIMIT IN M.P.H. AND ON ALL TAPER SECTIONS AT INTERVALS IN METERS OF NO MORE THAN 0.3 TIMES THE SPEED LIMIT IN M.P.H. FOR SPEED LIMITS LESS THAN 35 M.P.H. SPACE CHANNELIZING DEVICES AS DIRECTED BY THE ENGINEER.
- ② OBLITERATE ALL PAVEMENT MARKINGS THAT CONFLICT AT ANY TIME DURING OR AFTER MEDIAN CROSSING USE.
- ③ INDICATED SPACINGS ARE INTENDED TO BE A MAXIMUM AND MAY BE REDUCED IF CONDITIONS WARRANT.
- ④ PROVIDE ADDITIONAL SIGNING FOR EXIT DESTINATION WHEN EXIT DELINIATION IS NOT VISIBLE.
- ⑤ USE MATERIALS FOR BARRICADE FRAMEWORK AND ASSEMBLY, INCLUDING ANY SIGNS AND MEANS OF ATTACHMENT, THAT MEET THE REQUIREMENTS FOR NCHRP 350 FOR WORK ZONE DEVICES.

ALL DIMENSIONS ARE MILLIMETERS
(mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING

REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-22
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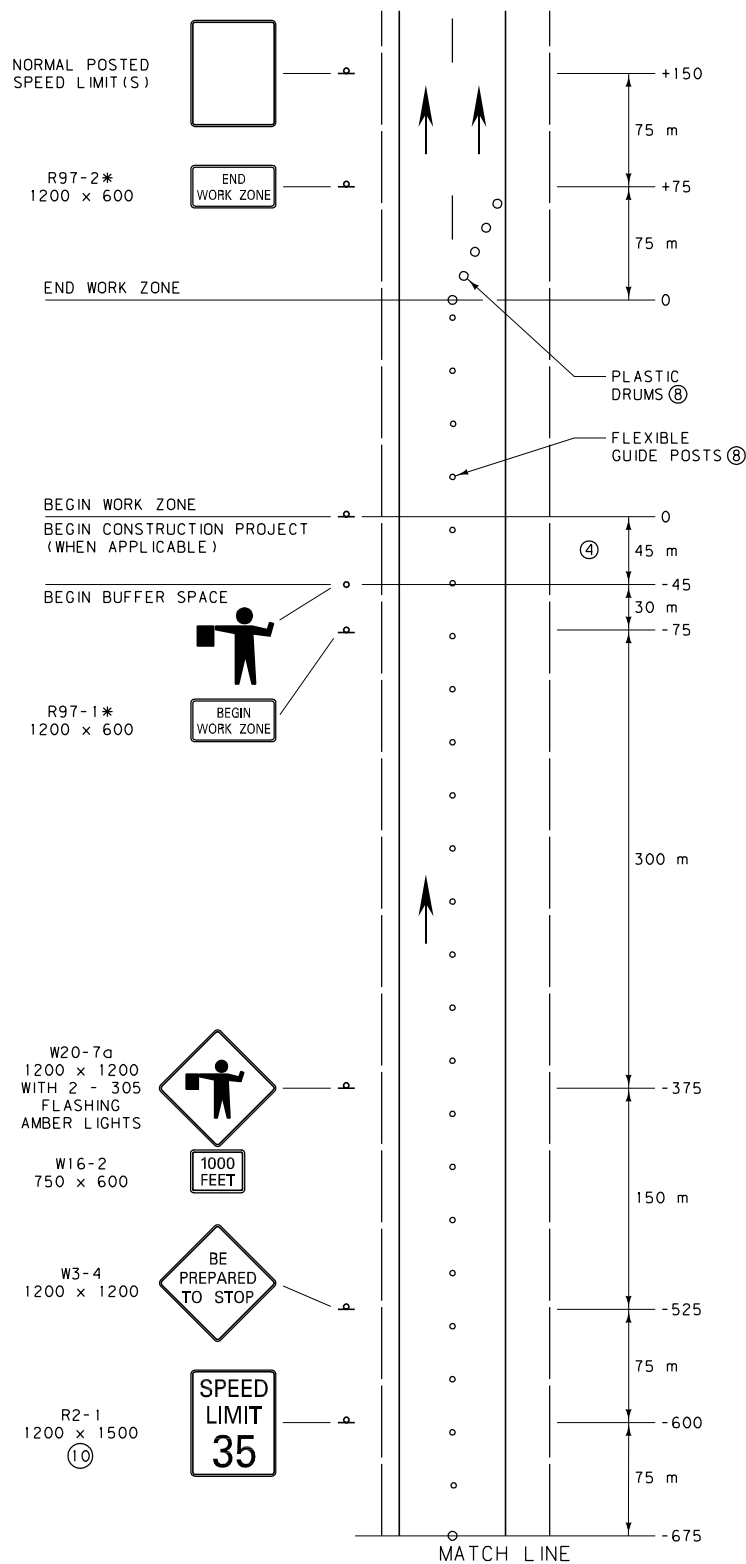
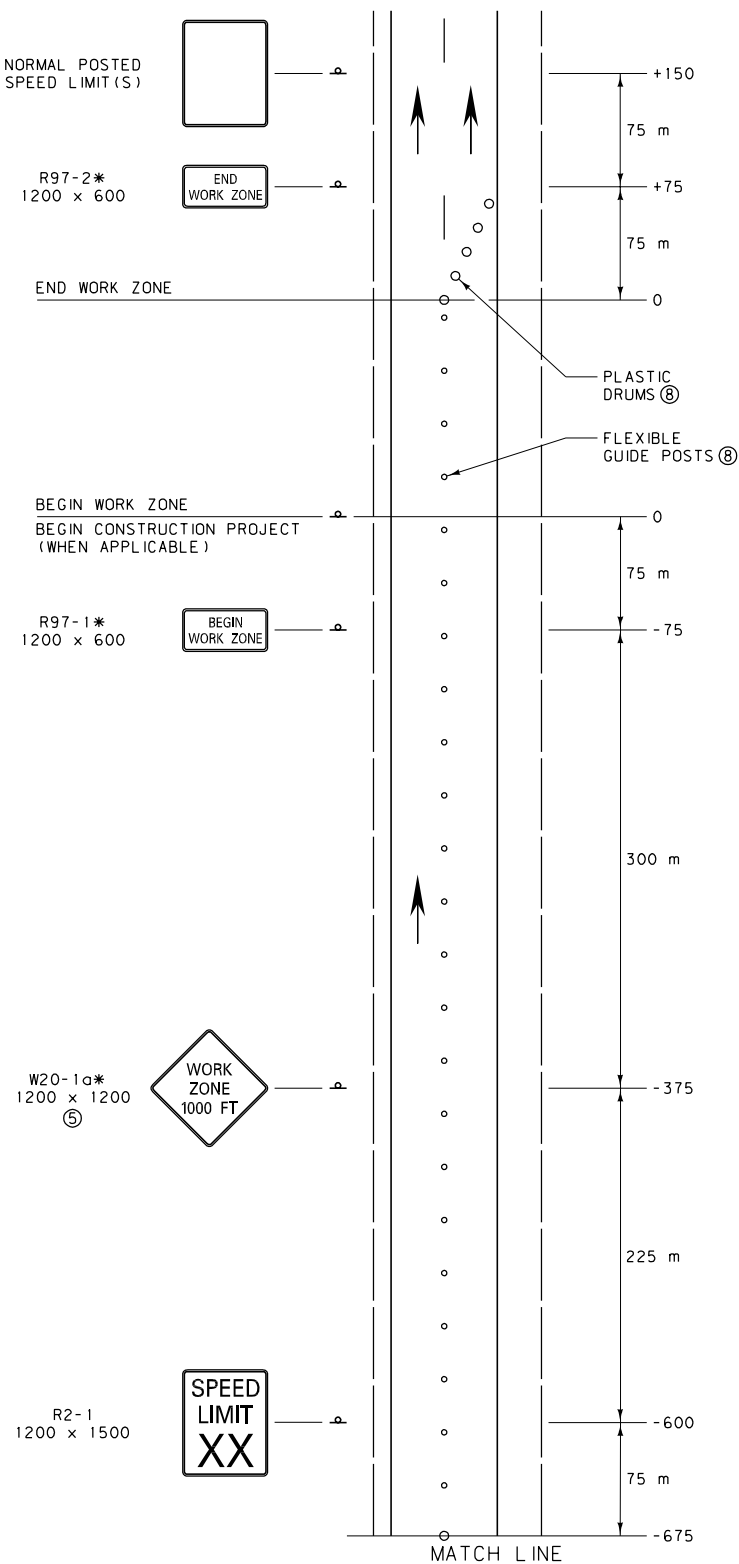
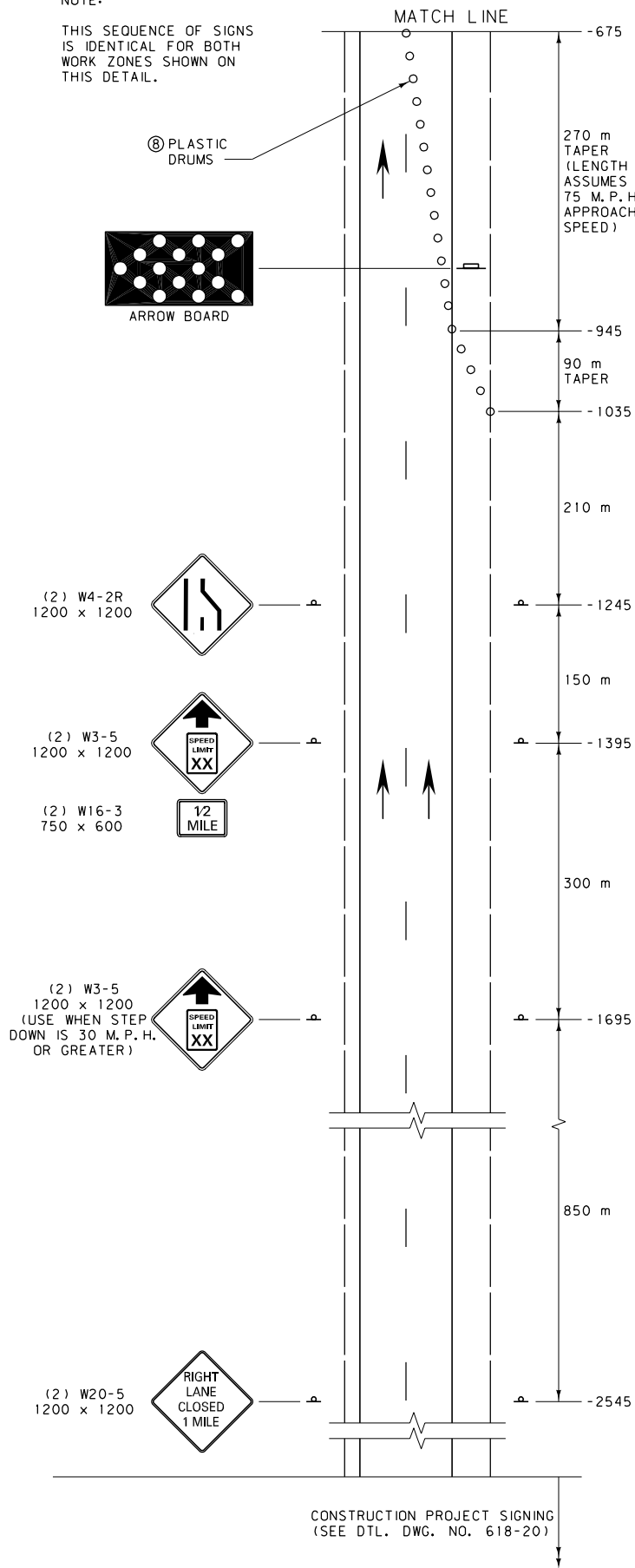
TEMPORARY
EXIT RAMP
MEDIAN CROSSING

EFFECTIVE: FEBRUARY 2005

MDT MONTANA DEPARTMENT
OF TRANSPORTATION
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NOTE:


THIS SEQUENCE OF SIGNS IS IDENTICAL FOR BOTH WORK ZONES SHOWN ON THIS DETAIL.

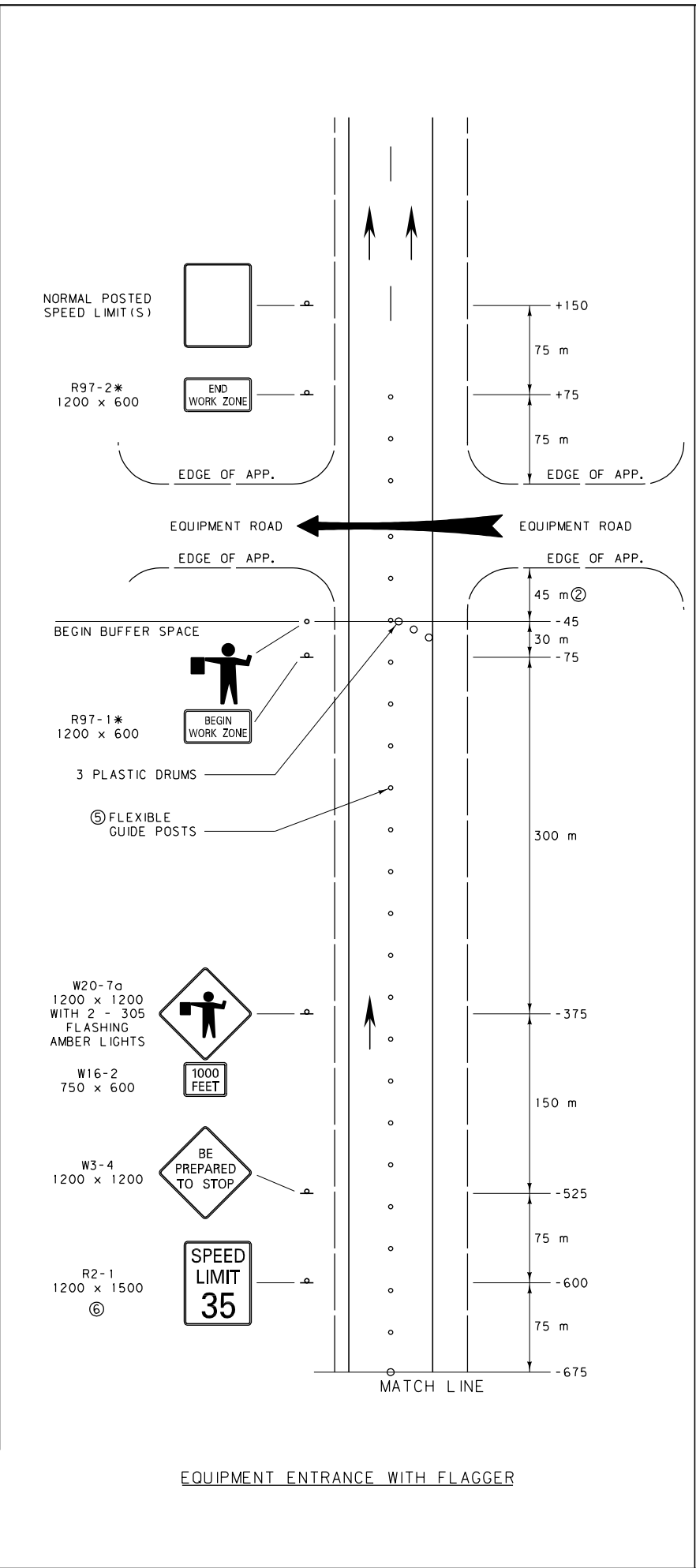
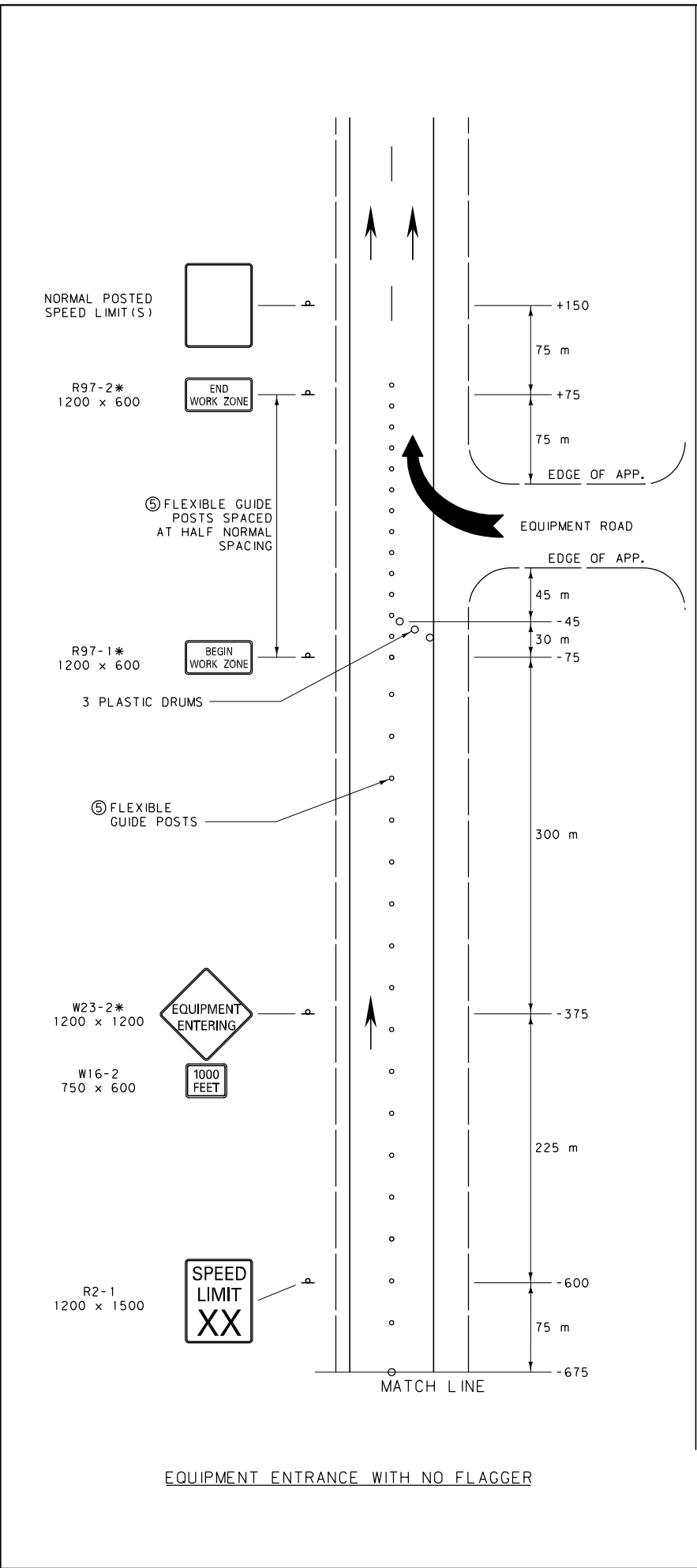
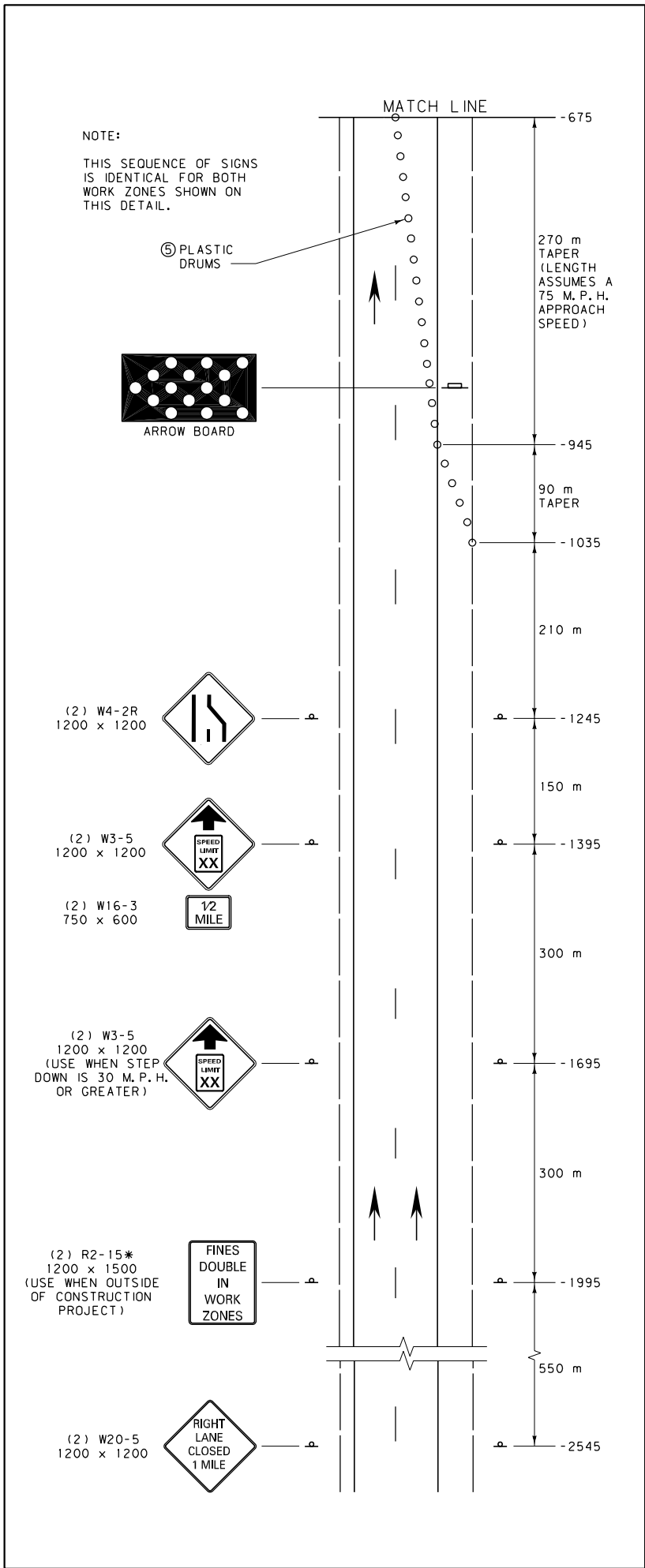


NOTES:

- ① THESE SIGN LAYOUTS WORK IN CONJUNCTION WITH THE PERMANENT LAYOUT ILLUSTRATED ON DTL. DWG. NO. 618-20 FOR WORK ZONES LOCATED AT THE BEGIN AND END OF THE CONSTRUCTION PROJECT.
 - ② INCLUDE REGULATORY SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED WITHIN THE WORK ZONE. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.
 - ③ THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.
 - ④ THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.
 - ⑤ USE MORE SPECIFIC SIGNS, WHERE APPLICABLE, SUCH AS W8-3 "PAVEMENT ENDS."
 - ⑥ XX = SPEED DETERMINED BY THE ENGINEER.
 - ⑦ PROVIDE A SECOND FLAGGER WHEN REQUIRED BY STANDARD SPECIFICATIONS, SECTION 618.
 - ⑧ SPACE FLEXIBLE GUIDE POSTS ON TANGENTS AT INTERVALS IN METERS OF NO MORE THAN 0.6 TIMES THE SPEED LIMIT IN M.P.H. SPACE PLASTIC DRUMS IN ALL TAPER SECTIONS AT INTERVALS IN METERS OF NO MORE THAN 0.3 TIMES THE SPEED LIMIT IN M.P.H. FOR SPEED LIMITS LESS THAN 35 M.P.H., SPACE CHANNELIZING DEVICES AS DIRECTED BY THE ENGINEER.
 - ⑨ WHEN PORTABLE SIGNS ARE USED, PLACE AS DIRECTED BY THE ENGINEER.
 - ⑩ IF FLAGGER IS MORE THAN 1.6 km FROM THE LANE CLOSURE, INCLUDE W3-5 SIGNS, AS REQUIRED.
- * DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	618-24
SECTION 618	
DIVIDED FOUR-LANE CONSTRUCTION PROJECT WORK ZONES	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION	



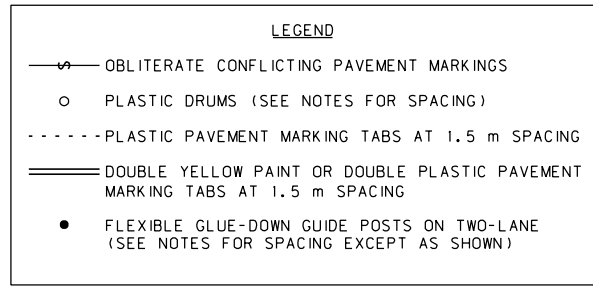
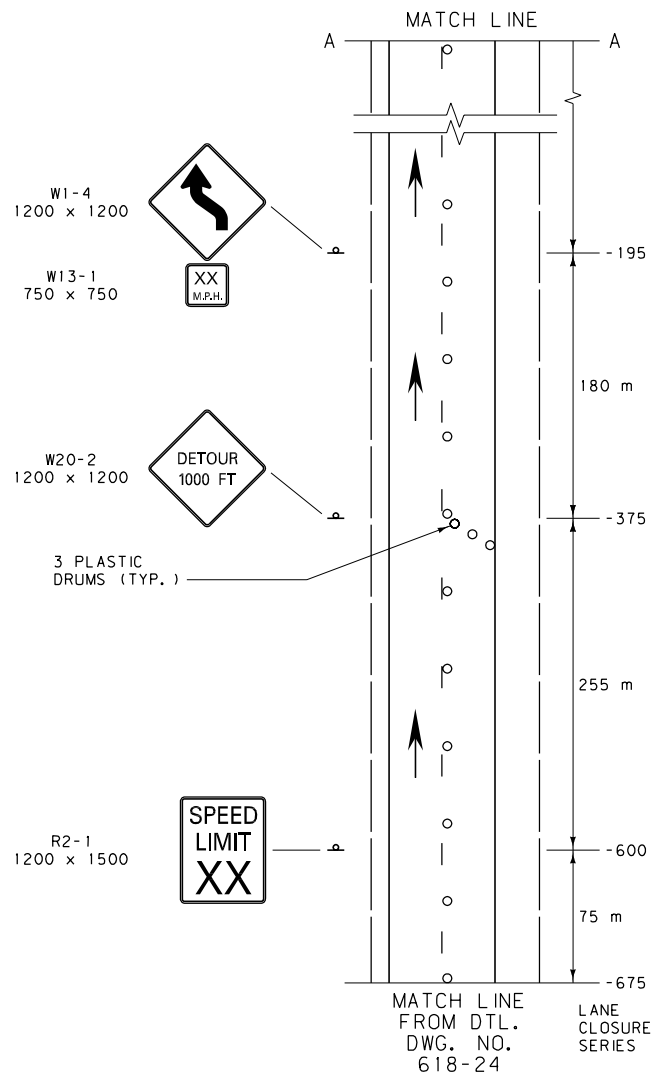
NOTES:

- ① INCLUDE REGULATORY SIGNING ONLY IF THERE IS REASON TO RESTRICT SPEED WITHIN THE WORK ZONE. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.
- ② THE BUFFER SPACE MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.
- ③ XX = SPEED DETERMINED BY THE ENGINEER.
- ④ THE WORK ZONE REFERS TO THE AREA WHERE WORK IS ACTUALLY TAKING PLACE. WHEN THIS OCCURS OUTSIDE OF A CONSTRUCTION PROJECT, INCLUDE THE R2-15* SIGN.
- ⑤ SPACE FLEXIBLE GUIDE POSTS ON TANGENTS AT INTERVALS IN METERS OF NO MORE THAN 0.6 TIMES THE SPEED LIMIT IN M.P.H. SPACE PLASTIC DRUMS IN ALL TAPER SECTIONS AT INTERVALS IN METERS OF NO MORE THAN 0.3 TIMES THE SPEED LIMIT IN M.P.H. FOR SPEED LIMITS LESS THAN 35 M.P.H., SPACE CHANNELIZING DEVICES AS DIRECTED BY THE ENGINEER.
- ⑥ IF FLAGGER IS MORE THAN 1.6 km FROM THE LANE CLOSURE, INCLUDE W3-5 SIGNS, AS REQUIRED.

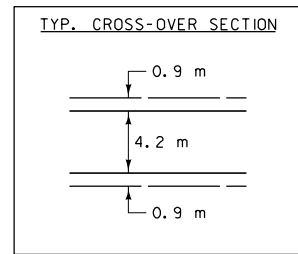
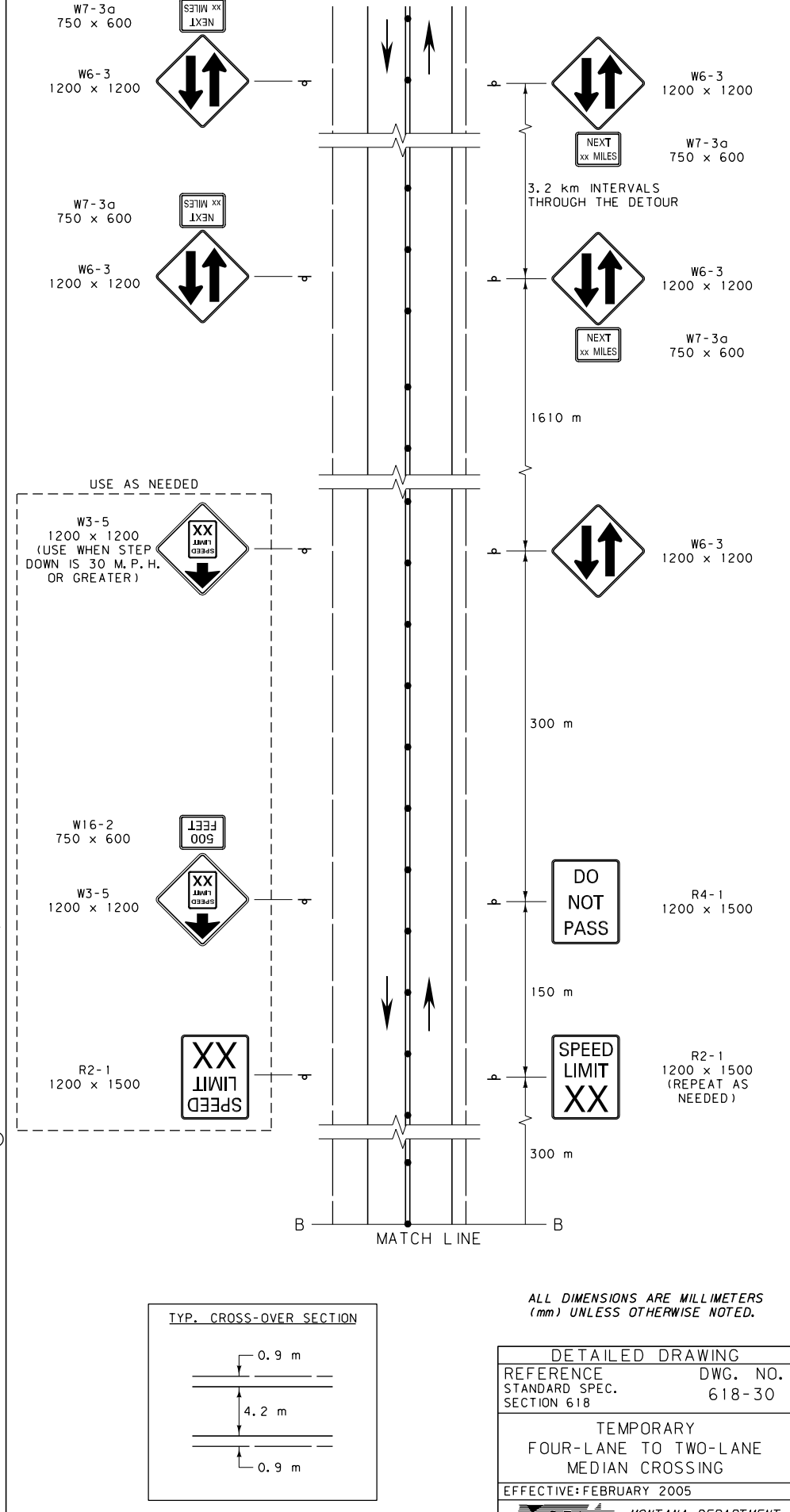
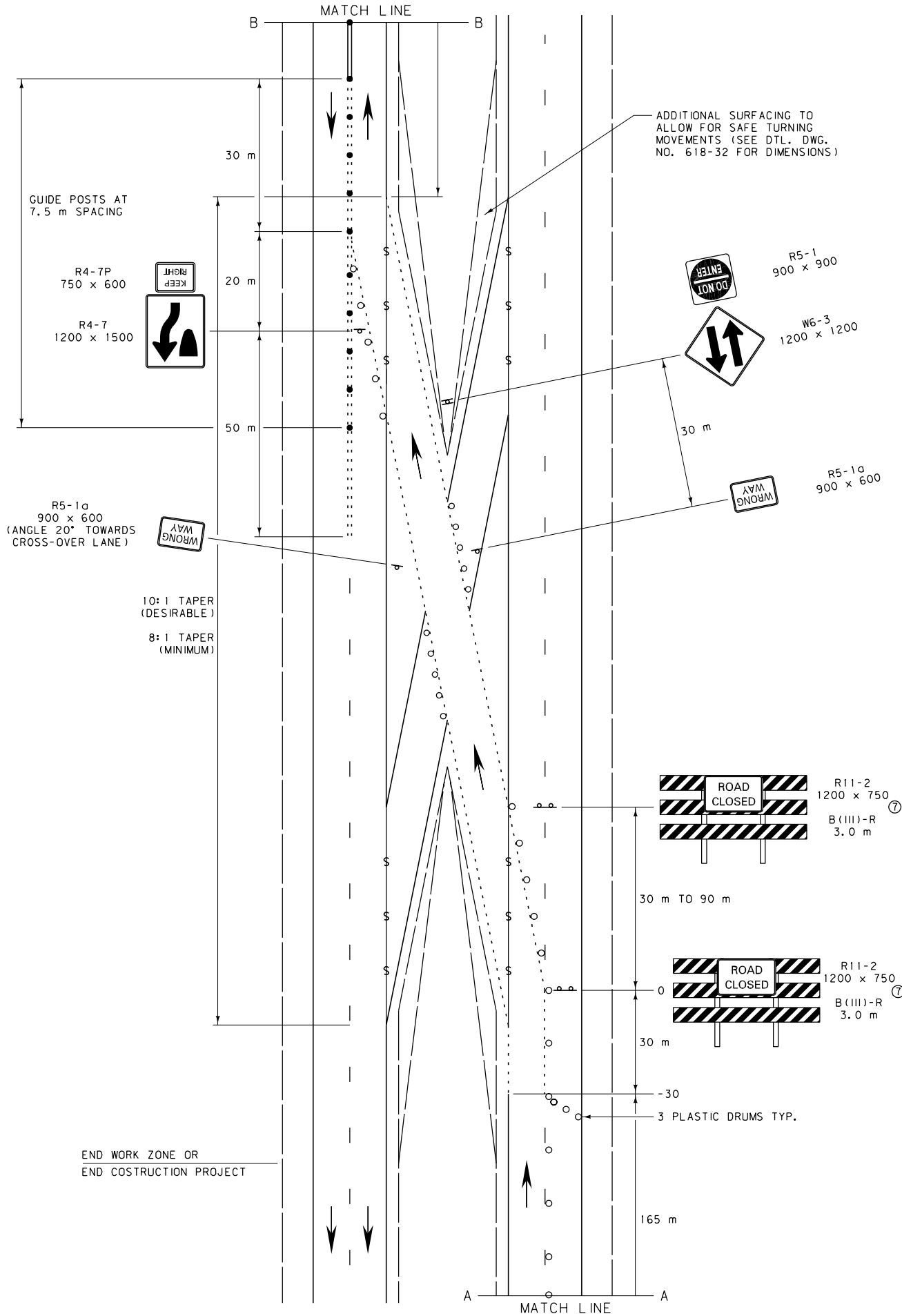
* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-27
DIVIDED FOUR-LANE EQUIPMENT ENTRANCES	
EFFECTIVE: FEBRUARY 2005	
	MONTANA DEPARTMENT OF TRANSPORTATION

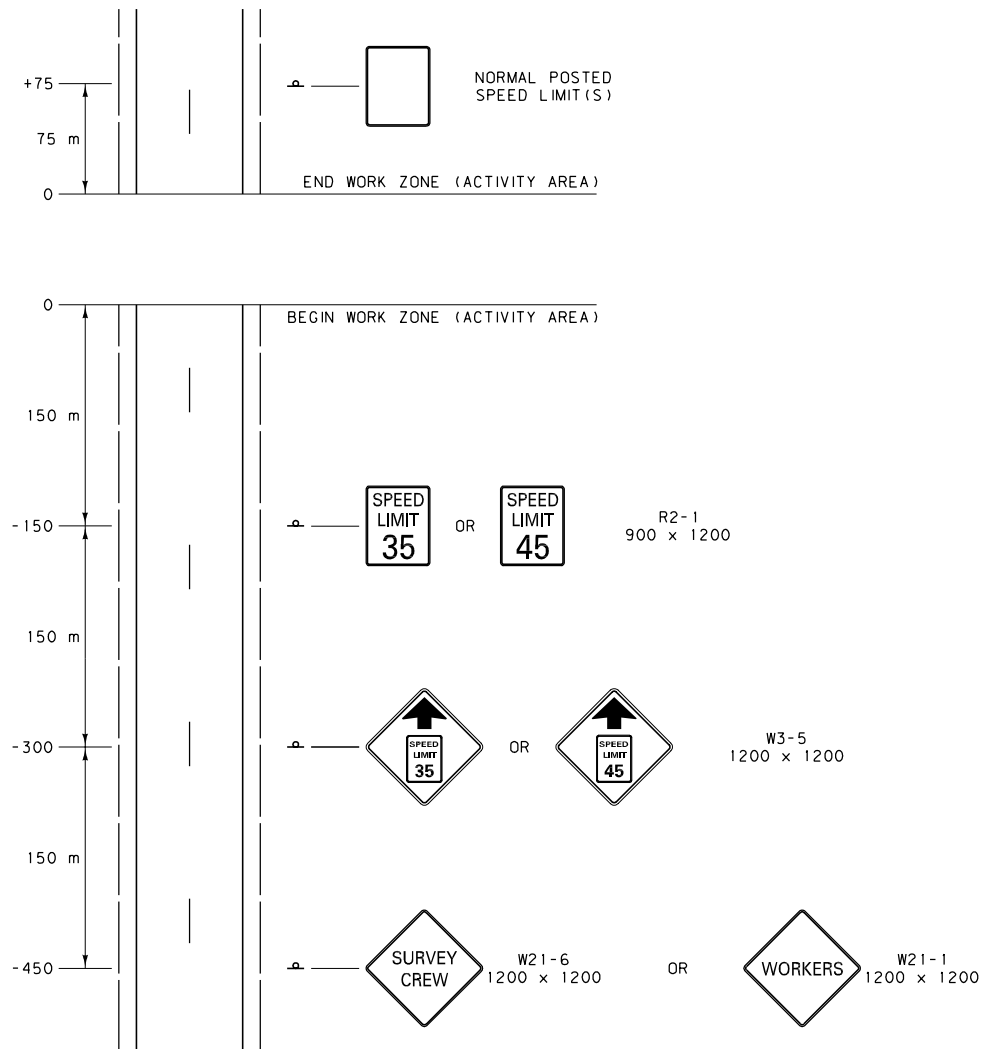


- NOTES:**
- ① INCLUDE REGULATORY SIGNING ONLY AS REQUIRED. MODIFY REGULATORY SIGNS TO MATCH ADJACENT REGULATIONS.
 - ② THE WORK ZONE REFERS TO THE AREA WITHIN THE CONSTRUCTION PROJECT WHERE WORK IS ACTUALLY TAKING PLACE.
 - ③ INDICATED SPACINGS ARE INTENDED TO BE A MAXIMUM AND MAY BE REDUCED IF CONDITIONS WARRANT.
 - ④ XX = SPEED DETERMINED BY THE MEDIAN CROSSING DESIGN SPEED OR THE ENGINEER.
 - ⑤ SPACE CHANNELIZING DEVICES ON TANGENTS AT INTERVALS IN METERS OF NO MORE THAN 0.6 TIMES THE SPEED LIMIT IN M.P.H. AND ON ALL TAPER SECTIONS AT INTERVALS IN METERS OF NO MORE THAN 0.3 TIMES THE SPEED LIMIT IN M.P.H. FOR SPEED LIMITS LESS THAN 35 M.P.H., SPACE CHANNELIZING DEVICES AS DIRECTED BY THE ENGINEER.
 - ⑥ OBLITERATE ALL PAVEMENT MARKINGS THAT CONFLICT AT ANY TIME DURING OR AFTER MEDIAN CROSSING USE.
 - ⑦ USE MATERIALS FOR BARRICADE FRAMEWORK AND ASSEMBLY, INCLUDING ANY SIGNS AND MEANS OF ATTACHMENT, THAT MEET THE REQUIREMENTS FOR NCHRP 350 FOR WORK ZONE DEVICES.



ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.


DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	618-30
SECTION 618	
TEMPORARY FOUR-LANE TO TWO-LANE MEDIAN CROSSING	
EFFECTIVE: FEBRUARY 2005	
	MONTANA DEPARTMENT OF TRANSPORTATION

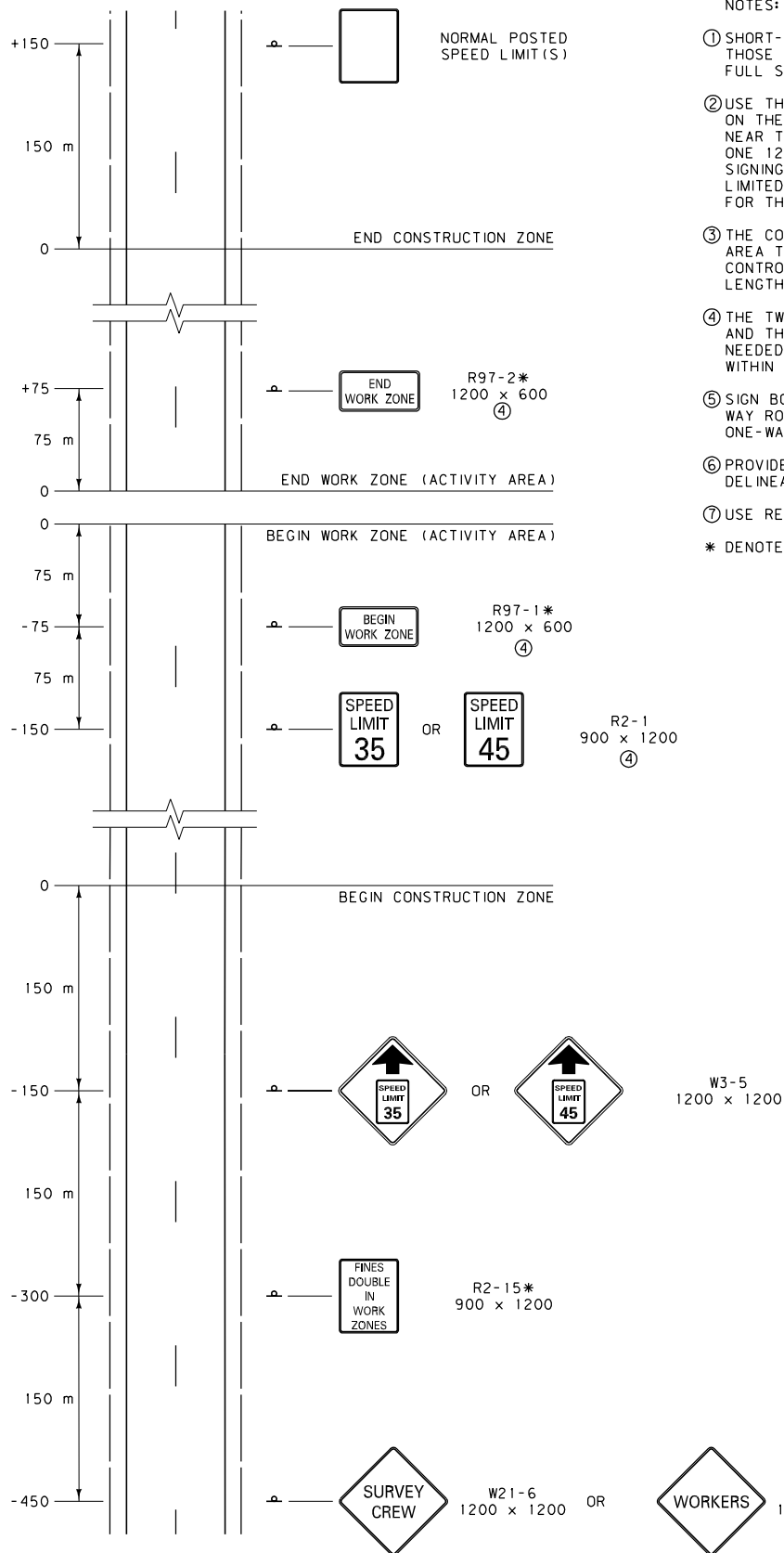


NOTES:

- ① SHORT DURATION ACTIVITIES ARE DEFINED AS THOSE LASTING UP TO ONE HOUR.
- ② USE THIS SIGN LAYOUT WHEN WORK IS TO TAKE PLACE ON THE TRAVELED WAY. SIGNING FOR WORK ON OR NEAR THE SHOULDER MAY BE LIMITED TO THE USE OF ONE 1200 mm WARNING SIGN FOR EACH TRAVEL DIRECTION. SIGNING FOR WORK OUTSIDE THE SHOULDER MAY BE LIMITED TO THE USE OF ONE 1200 mm WARNING SIGN FOR THE TRAVEL DIRECTION ADJACENT TO THE WORK.
- ③ SIGN BOTH TRAVEL DIRECTIONS ON TWO-LANE, TWO-WAY ROADWAYS OR BOTH SHOULDERS ON TWO-LANE, ONE-WAY ROADWAYS.
- ④ PROVIDE AT LEAST THE DISTANCE SHOWN FOR DELINEATOR MOUNTED SIGNS.
- ⑤ SEE DTL. DWG. NO. 618-36 "SHORT-TERM STATIONARY CREW SIGNING" IF THE DOUBLE PENALTY REGULATION IS TO BE UTILIZED.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE	DWG. NO.
STANDARD SPEC.	618-34
SECTION 618	
SHORT DURATION CREW SIGNING	
EFFECTIVE: FEBRUARY 2005	
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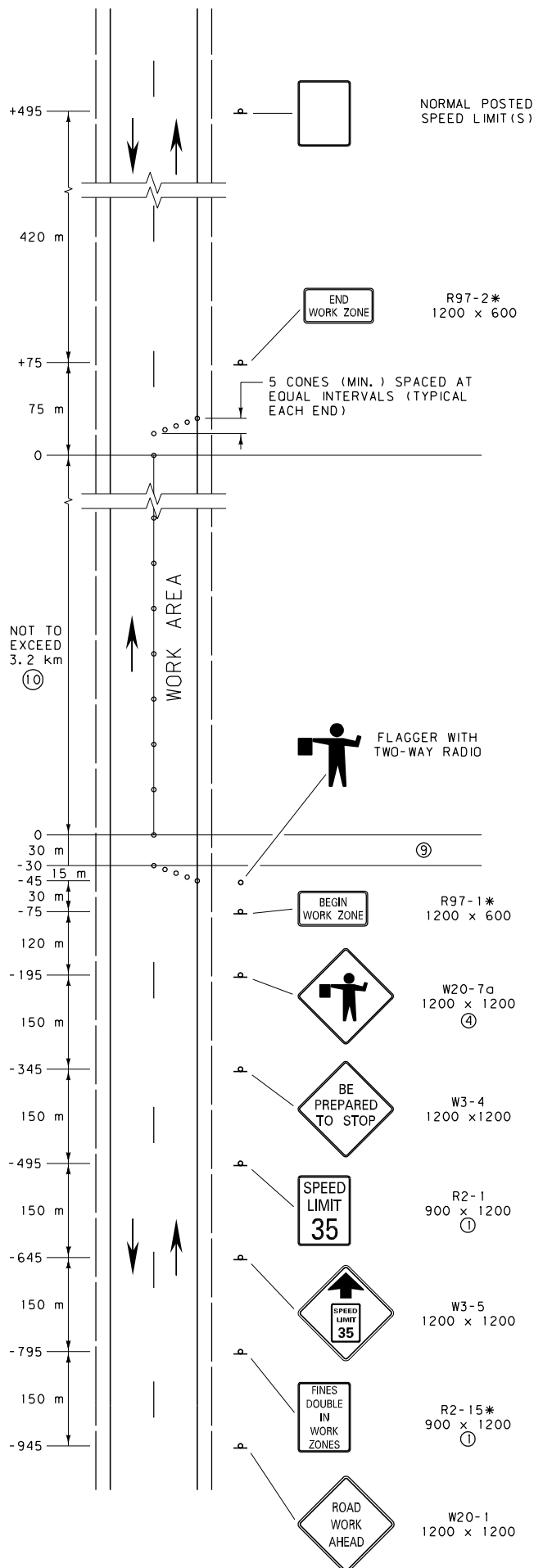
NOTES:

- ① SHORT-TERM STATIONARY ACTIVITIES ARE DEFINED AS THOSE LASTING GREATER THAN ONE HOUR, UP TO A FULL SHIFT.
- ② USE THIS SIGN LAYOUT WHEN WORK IS TO TAKE PLACE ON THE TRAVELED WAY. SIGNING FOR WORK ON OR NEAR THE SHOULDER MAY BE LIMITED TO THE USE OF ONE 1200 mm WARNING SIGN FOR EACH TRAVEL DIRECTION. SIGNING FOR WORK OUTSIDE THE SHOULDER MAY BE LIMITED TO THE USE OF ONE 1200 mm WARNING SIGN FOR THE TRAVEL DIRECTION ADJACENT TO THE WORK.
- ③ THE CONSTRUCTION ZONE REFERS TO THE GENERAL AREA THAT REQUIRES TEMPORARY WORK ZONE TRAFFIC CONTROL. IT SHOULD NOT EXCEED 4.8 KILOMETERS IN LENGTH.
- ④ THE TWO SIGNS MARKING THE WORK ZONE BOUNDARIES AND THE REGULATORY SPEED SIGN MUST MOVE AS NEEDED WITHIN THE CONSTRUCTION ZONE TO REMAIN WITHIN 150 METERS OF THE WORK ACTIVITY.
- ⑤ SIGN BOTH TRAVEL DIRECTIONS ON TWO-LANE, TWO-WAY ROADWAYS OR BOTH SHOULDERS ON TWO-LANE, ONE-WAY ROADWAYS.
- ⑥ PROVIDE AT LEAST THE DISTANCE SHOWN FOR DELINEATOR MOUNTED SIGNS.
- ⑦ USE REFLECTIVE DEVICES.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-36
SHORT-TERM STATIONARY CREW SIGNING	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION <i>serving you with pride</i>	




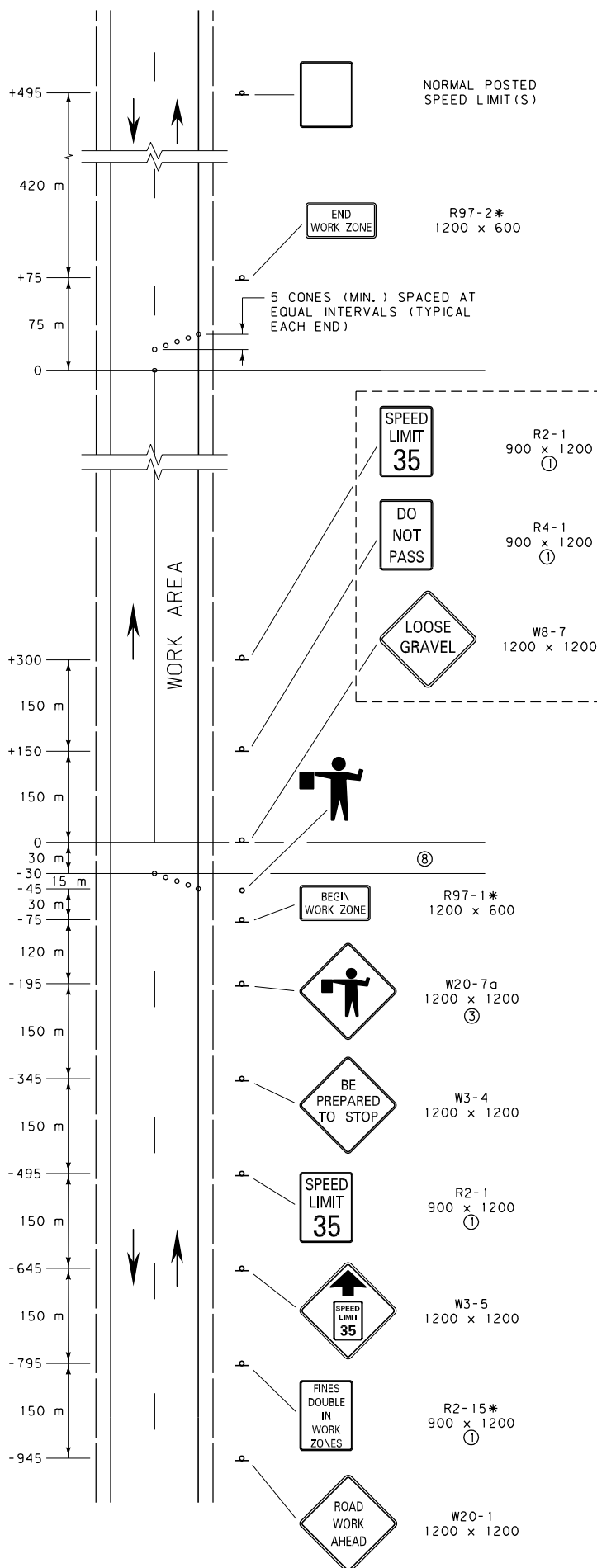
NOTES:

- ① MINIMUM REGULATORY SIGN SIZE IS 600 mm x 750 mm ON TWO-LANE ROADS.
- ② ON ROADWAYS WITH HIGH TRAFFIC VOLUMES OR VISIBILITY RESTRICTIONS, A 150 m SPACING FOR ALL SIGNS IS RECOMMENDED.
- ③ SPACE CHANNELIZING DEVICES AT INTERVALS IN METERS 0.6 TIMES THE SPEED LIMIT IN M.P.H. THROUGH THE BUFFER AND WORK AREA.
- ④ IF A NEED ARISES TO INCREASE VEHICLE STORAGE, ADD AN ADDITIONAL W20-7a "FLAGGER AHEAD" SIGN BETWEEN THE R2-1 AND THE ORIGINAL W20-7a AND/OR CONSIDER AN ADDITIONAL ADVANCE FLAGGER.
- ⑤ A MIRROR IMAGE OF THIS SIGN SEQUENCE IS REQUIRED FOR THE TRAFFIC FROM THE OPPOSITE DIRECTION.
- ⑥ FOR MORE INFORMATION OR CLARIFICATION CONTACT THE DISTRICT TRAFFIC ENGINEER. FOR EXAMPLE, IF WORK ZONE IS CLOSE TO A HORIZONTAL CURVE, A VERTICAL CURVE, A BRIDGE, INTERCHANGE, POOR SIGHT DISTANCE, OR OTHER SPECIAL CONDITION.
- ⑦ COVER ANY CONFLICTING SIGNS IN THE WORK ZONE.
- ⑧ SHORT-TERM WORK ZONE SIGNING IS NOT REQUIRED TO BE POST MOUNTED.
- ⑨ THE BUFFER SPACE CAN BE LATERAL AND LONGITUDINAL AND MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.
- ⑩ TYPICALLY 3.2 KILOMETERS IS THE MAX. WORK AREA. HOWEVER, WHEN SIGHT DISTANCE, BUFFER ZONES OR ACCOMPLISHMENT RATES FOR EQUIPMENT ARE CONSIDERED, SOME MINOR ADJUSTMENTS TO THIS MAX. MAY BE CONSIDERED.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-M1
MAINTENANCE GUIDELINE FOR SHORT-TERM TWO-LANE CRACK SEALING WORK ZONE	
EFFECTIVE: FEBRUARY 2005	
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NOTE:


TO BE POSTED AT THE START OF THE WORK AND REPEATED AT 3.2 km INTERVALS UNTIL THE SURFACE IS SWEEPED AND STRIPED.

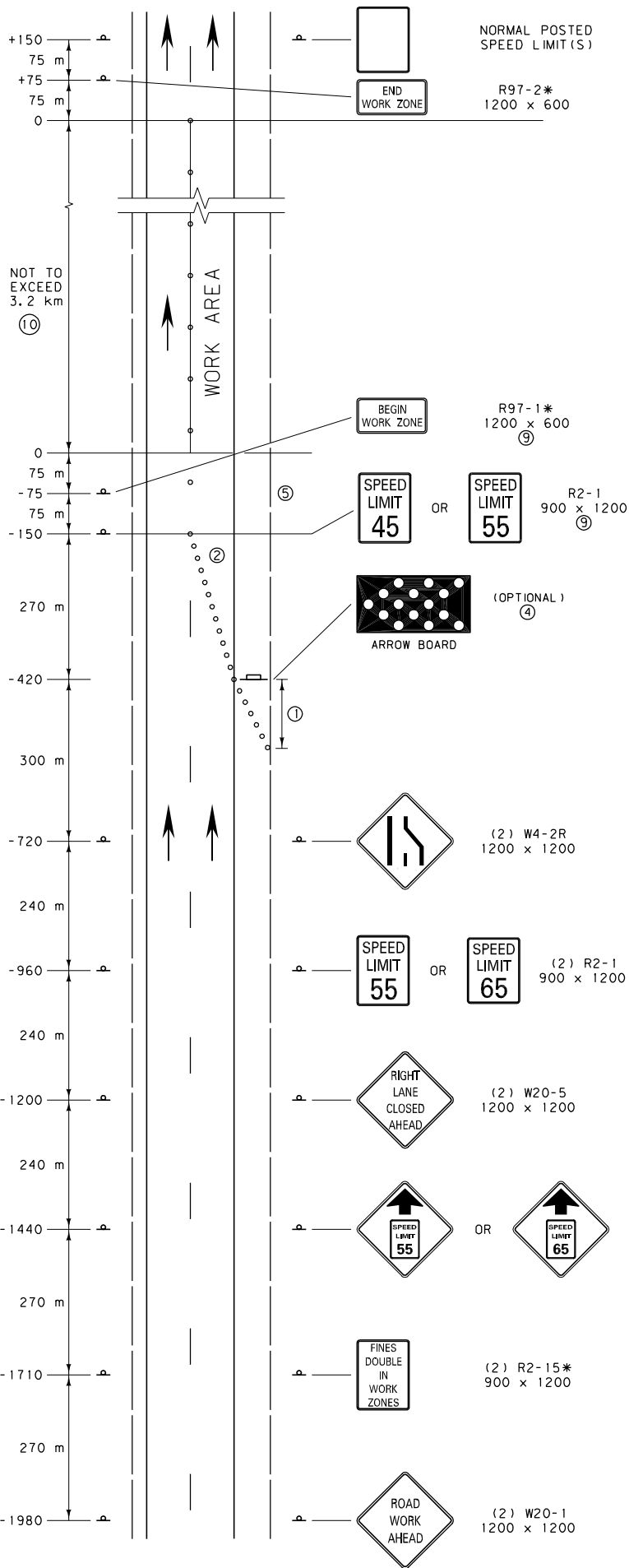
NOTES:

- ① MINIMUM REGULATORY SIGN SIZE IS 600 mm x 750 mm ON TWO-LANE ROADS.
- ② ON ROADWAYS WITH HIGH TRAFFIC VOLUMES OR VISIBILITY RESTRICTIONS, A 150 m SPACING FOR ALL SIGNS IS RECOMMENDED.
- ③ IF A NEED ARISES TO INCREASE VEHICLE STORAGE, ADD AN ADDITIONAL W20-7a "FLAGGER AHEAD" SIGN BETWEEN THE R2-1 AND THE ORIGINAL W20-7a AND/OR CONSIDER AN ADDITIONAL ADVANCE FLAGGER.
- ④ A MIRROR IMAGE OF THIS SIGN SEQUENCE IS REQUIRED FOR THE TRAFFIC FROM THE OPPOSITE DIRECTION.
- ⑤ FOR MORE INFORMATION OR CLARIFICATION CONTACT THE DISTRICT TRAFFIC ENGINEER. FOR EXAMPLE, IF WORK ZONE IS CLOSE TO A HORIZONTAL CURVE, A VERTICAL CURVE, A BRIDGE, INTERCHANGE, POOR SIGHT DISTANCE OR OTHER SPECIAL CONDITION.
- ⑥ COVER ANY CONFLICTING SIGNS IN THE WORK ZONE.
- ⑦ SHORT-TERM WORK ZONE SIGNING IS NOT REQUIRED TO BE POST MOUNTED.
- ⑧ THE BUFFER SPACE CAN BE LATERAL AND LONGITUDINAL AND MAY BE INCREASED FOR DOWNGRADES AND OTHER CONDITIONS THAT AFFECT STOPPING DISTANCE.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-M2
MAINT. GUIDELINE FOR SHORT-TERM TWO-LANE CHIP SEAL & OVERLAY (PILOTTED TRAFFIC)	
EFFECTIVE: FEBRUARY 2005	
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NOTES:

- ① USE A MINIMUM 90 m SHOULDER TAPER.
- ② USE THIRTEEN APPROVED CHANNELIZING DEVICES FOR A 3.6 m LANE CLOSURE TAPER (75 M.P.H. SPACED AT 22.5 m.) ASSURE THAT THE TAPER IS A MINIMUM LENGTH OF 270 m.
- ③ SPACE CHANNELIZING DEVICES AT INTERVALS IN METERS OF 0.6 TIMES THE SPEED LIMIT IN M.P.H. THROUGH THE BUFFER AND WORK AREA.
- ④ PLACE THE ARROW BOARD (IF USED) ON THE SHOULDER AT THE START OF THE TRAVEL LANE CLOSURE TAPER.
- ⑤ THE BUFFER SPACE CAN BE LATERAL AND LONGITUDINAL. KEEP THE BUFFER SPACE CLEAR OF EQUIPMENT AND PERSONNEL.
- ⑥ FOR MORE INFORMATION OR CLARIFICATION CONTACT THE DISTRICT TRAFFIC ENGINEER. FOR EXAMPLE, IF WORK AREA IS CLOSE TO A HORIZONTAL CURVE, A VERTICAL CURVE, A BRIDGE, INTERCHANGE, POOR SIGHT DISTANCE OR OTHER SPECIAL CONDITION.
- ⑦ COVER ANY CONFLICTING SIGNS IN THE WORK AREA.
- ⑧ SHORT-TERM WORK ZONE SIGNING IS NOT REQUIRED TO BE POST MOUNTED.
- ⑨ WHEN THE WORK ZONE CHANGES WITHIN THE CONSTRUCTION ZONE THESE SIGNS SHOULD BE MOVED TO REFLECT THE ACTUAL WORK ZONE.
- ⑩ TYPICALLY 3.2 KILOMETERS IS THE MAX. WORK AREA. HOWEVER, WHEN SIGHT DISTANCE, BUFFER ZONES OR ACCOMPLISHMENT RATES FOR EQUIPMENT ARE CONSIDERED, SOME MINOR ADJUSTMENTS TO THIS MAX. MAY BE CONSIDERED.

* DENOTES SIGNS THAT ARE UNIQUE TO MONTANA.

ALL DIMENSIONS ARE MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 618	DWG. NO. 618-M3
MAINTENANCE GUIDELINE FOR SHORT-TERM LANE CLOSURE ON INTERSTATE	
EFFECTIVE: FEBRUARY 2005	
 MONTANA DEPARTMENT OF TRANSPORTATION serving you with pride	